QUARK
WORD JUGGLER™ IIe

Word Processor for the Apple IIe
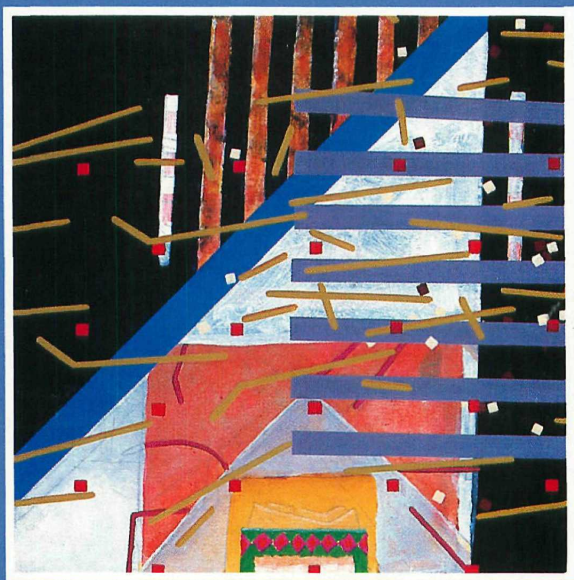
Quark™
INCORPORATED

WORD JUGGLER™

USER'S MANUAL

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Glossary

NOTE: This manual does not cover use of your computer. It assumes that you are familiar with certain terms used to describe its operation such as "boot" and "format".

When you purchased Word Juggler you should have received the following:

1. This manual.
2. A master Word Juggler diskette.
3. A backup Word Juggler diskette.
4. A Lexicheck diskette.
5. Replacement keycaps.
6. A keycap puller.
7. A Warranty Registration card.
8. A Quick reference card.
9. A command strip which fits above the keyboard.

If you did not receive any of these components, return the product **immediately** to your dealer either to obtain the missing parts or to get a replacement product.

IMPORTANT: You <u>must</u> fill out and return the Warranty Registration card. If you don't, no warranty service can be given. Send it in immediately. This card is the <u>only</u> mechanism we have for providing warranty service and of informing you about updates to Word Juggler, new products and improved versions of Word Juggler.

Overview

Word processing is much more than simply turning your computer into a glorified typewriter. By putting the power of the computer at the service of your mind, you can have an astonishing amount of flexibility in the preparation of whatever you're writing, whether it's a sales report, a series of complicated form letters, or The Great American Novel. A professional word processing program lets you do more work, more efficiently, in less time, for less money. There's a word for this. It's called productivity.

The principal advantage of Word Juggler over other professional word processing programs is the combination of these powerful capabilities with extraordinary ease of use. Word Juggler lets you perform even the most complicated tasks with just a few keystrokes. You can easily copy or rearrange paragraphs, automatically find and replace the wrong word with with the right one, even check your spelling, without having to memorize confusing commands. In short, Word Juggler lets you concentrate on what you're writing, not how you're writing it.

One important thing to remember as you begin to use this manual is the fact that you are bound to come across a number of terms with which you may not be familiar. Don't let this concern or intimidate you. Every field has its jargon, and it could be argued that the computer industry has more than its share. Yet you'll quickly discover that none of these words and phrases represent concepts that are particularly complicated. And their function and importance to serious word processing will be readily apparent. If you are unfamiliar with a particular word, just refer to the Glossary at the end of this manual. The most common technical terms are defined there.

Many of the new concepts are related to the special printing capabilities you get with Word Juggler. Word Juggler can print text in a variety of ways to provide emphasis or to allow you to express complex scientific formulas.

Since every printer handles these things a bit differently, Word Juggler must know exactly which printer you are using in order to be able take full advantage of the features of your printer. The sections that follow tell you how to set up Word Juggler and how to get Word Juggler to use the power of your printer.

Installing Word Juggler

The Word Juggler diskettes are copy resistant and cannot be copied by normal means. Take good care of them. The section on "Repair and Replacement" tells what to do should one of these diskettes fail to function properly. Take special note of the instructions for proper shipping of diskettes. PLEASE!

The Lexicheck diskette can be copied using one of Apple's standard diskette copy programs such as COPYA or the ProDOS

Filer. You should make a duplicate of the Lexicheck diskette using one of these utilities.

Before Word Juggler can be used on your computer you must install the special keycaps and the command strip.

Begin by turning off your computer. Figures 1, 2 and 3 show how to put the keycap puller around a key. These diagrams illustrate removal of keycaps of the Apple //e. A similar technique works for the Apple //c.

Just hold on to your computer with your free hand and exert a smooth upward pull. The keycap will come off easily. If you have any difficulty removing a keycap, don't force it! Consult your dealer.
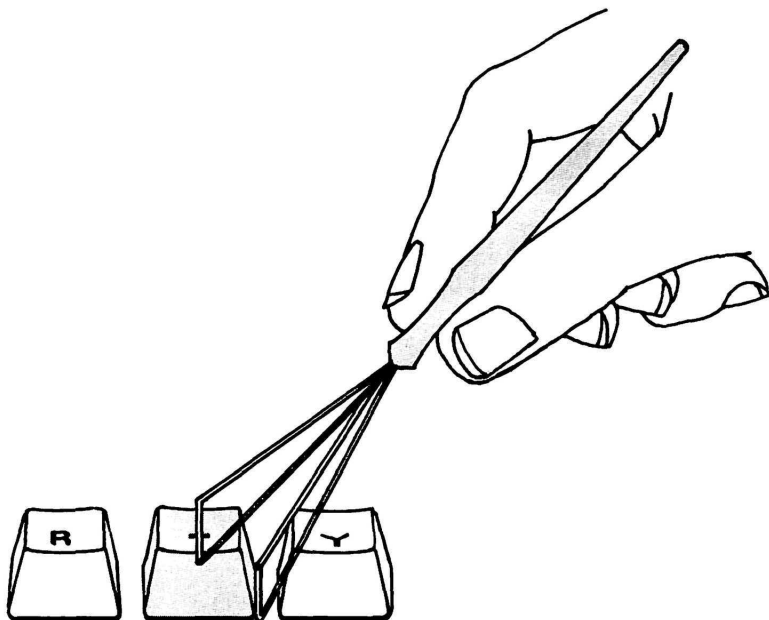
Figure 1.
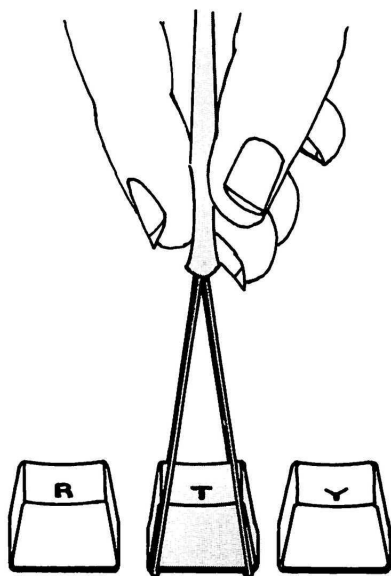
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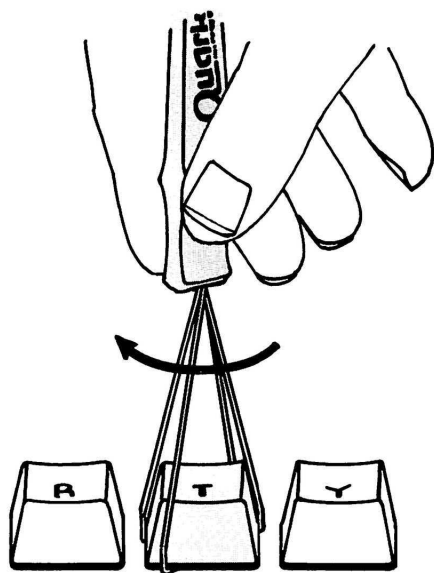
Figure 3.

On the Apple //c, only the keycap is removed by this process. On the Apple //e, however, there are two configurations of the keyboard (see Figure 4). On some keyboards, only the keycap is removed (lower diagram). On other configurations, a small brown plastic stand-off sometimes comes off with the key (upper diagram).

Figure 5 shows a side view of a keycap which has the stand-off on it. You should remove the stand-off and put it on the replacement keycap. Removal of the stand-off can usually be accomplished with just your fingers. If it proves particularly recalcitrant, you may use a variety of common implements to persuade it. A pair of pliers or tweezers may be used to pull it off.
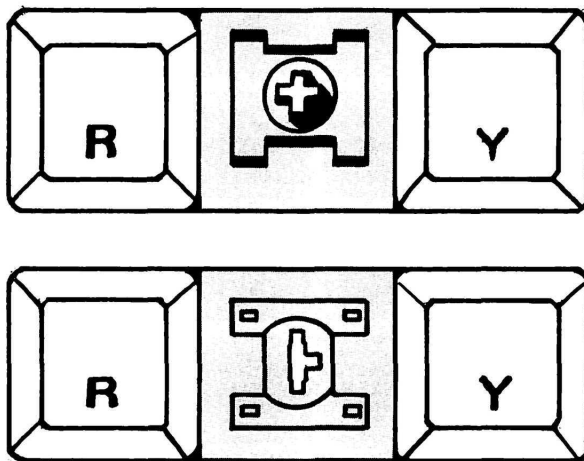
Figure 4.
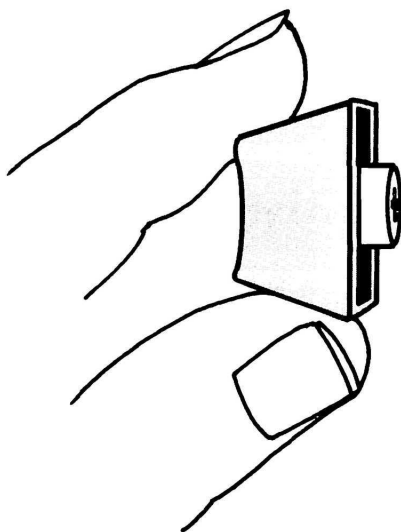
Figure 5.

When putting on the stand-off, make sure to press hard to insure that it is properly seated on the new key. The replacement keycap can then be reinstalled on the keyboard.

On the Apple //e, you should remove the cover and support the keyboard from the bottom with your hand while doing this. This avoids excessive flexing of the keyboard's circuit board. On the Apple //c, this is not necessary.

The fastest way to replace keycaps is to remove all of them first, and then replace them all. However, since you run the risk of forgetting which keycaps go where, you may wish to replace them one at a time.

Finally, place the command strip above the main section of the keyboard. The word "Command" should be above the ESCAPE key. Your command strip may have an adhesive backing. If you will always be using your Word Juggler on a particular machine, you may wish to remove the protective backing and permanently stick the command strip in place.

Basic installation is complete. Now you just have to tell Word Juggler what kind of printer you have and how it is connected.

Configuring Word Juggler
for your Hardware

Before Word Juggler can use your printer, it must be
configured to understand what printer you are using and how
and where it is connected. Start by removing the write
protect tab from your Word Juggler master diskette. Then
insert the diskette into your Apple and boot the system.
After a few seconds Word Juggler's main menu will appear.
Type an "E" (for EDIT CONFIGURATION) and press the RETURN
key. If you type the wrong letter and haven't pressed
RETURN, press the DELETE key to remove it.

You will be taken to the Edit Configuration menu. If you
are not in this menu, you should reboot Word Juggler by
holding down the CONTROL and OPEN APPLE keys and pressing
RESET and start again.

Once in the configuration menu, you can set up Word Juggler
for your printer. Press the down arrow key several times
and observe the effect. Do the same with up arrow. Now
using these keys position the cursor to the "Printer slot"
entry. Press the right arrow key several times. Then do
the same for the left arrow. This changes the printer slot.
Using right and left arrow, set the printer slot
appropriately (probably to slot 1).

Use the down arrow key to position the cursor to the
"Printer card" entry. Using the left and right arrow keys,
set the value to the kind of printer card you have. If you
are using an Apple //c, you will not need to change the
printer card setting since Word Juggler comes preconfigured
for the Apple //c.

If your Apple //e has a printer card other than one on the
list, set the entry to "Super Serial". This is a fairly
generic card type. If a "255N" is printed at the top of a
page when printing with this setting, you should set the
printer card to "Other". The CCS card is an example of a
card which requires the "Other" setting.

Press down arrow to move to the "Auto linefeed" entry. If
your **printer** automatically generates a linefeed after
receiving a carriage return, set it to "Yes" (this is the
most common case). Otherwise, set it to "No".

Move the cursor to the "Space underline" entry. If you
generally underline the blank spaces in a phrase

(e.g. **all spaces are underlined**), set this entry to "Yes".
If you rarely underline spaces (e.g. **spaces are not
underlined**), set the entry to "No".

Move the cursor to the "Pitch" entry. If your printer
prints 10 characters per inch (pica), set it to "10". If
your printer normally prints 12 characters per inch (elite),
set this entry to "12". If your printer prints 15
characters per inch, set it to "15".

Except for the "Filter" entry, the remaining entries merely
select what values Word Juggler uses as defaults for its
page format. You may come back to the configuration menu at
any time and adjust them to whatever suits you. However,
until you are more familiar with the Word Juggler program it
is probably best to leave these entries alone.

Press the space bar to store your configuration back on the
diskette. You will automatically be returned to the main
Word Juggler menu.

Using the Special Capabilities
of your Printer

Before Word Juggler can use the special capabilities of your
printer, you need to tell it what kind of printer you have.
Different printers have different capabilities.
Word Juggler uses only those printer features with which it
is familiar. If your printer has features unfamiliar to
Word Juggler (such as color), Word Juggler won't use those
features. You may be able to activate them directly by
sending special codes to the printer, however.

You tell Word Juggler what kind of printer you have by
setting the "Filter" parameter. Word Juggler has filters to
take advantage of the special features of the following
printers:

Printer name	Filter setting
Anadex 9500	User: Anadex
Anadex 9501 & 9601	User: Anadex
Apple DMP	User: Apple DMP
Apple Imagewriter	User: Apple DMP
Apple LQP	Apple LQP/Diablo/Xerox/Qume/NEC
Apple Scribe	User: Apple Scribe
Brother HR-15	Apple LQP/Diablo/Xerox/Qume/NEC
C. Itoh F-10 & FP-1500	Apple LQP/Diablo/Xerox/Qume/NEC
C. Itoh 1550 & 8510	User: Apple DMP
Comrex CR-1	Other (w/o bsp & no auto LF)
Daisywriter	Apple LQP/Diablo/Xerox/Qume/NEC
Diablo 620 & 630	Apple LQP/Diablo/Xerox/Qume/NEC
Epson MX-80 & MX-100	User: Epson MX
Epson FX-80 & FX-100	User: Epson FX & RX
Epson RX-80	User: Epson FX & RX
Gemini 10X & 15X	User: Epson FX & RX
Data Products 480 & 560	User: Data Products
Prism 80 & 132	User: Data Products
NEC 35x0, 55x0 & 77x0	NEC (35x0/55x0/77x0)
NEC 35x5, 55x5 & 77x5	Apple LQP/Diablo/Xerox/Qume/NEC
NEC 8023	User: Apple DMP
Okidata 82	Other (w/o bsp & no auto LF)
Okidata 84, 92 & 93	User: Okidata
Panasonic KXP1090	User: Epson FX & RX
Primages I	Apple LQP/Diablo/Xerox/Qume/NEC
Qume Sprint 5, 7, 9 & 11	Apple LQP/Diablo/Xerox/Qume/NEC
Spirit-80	User: Epson FX & RX
TP-1	Other (with backspace)
Transtar 120 & 130	Apple LQP/Diablo/Xerox/Qume/NEC
Xerox 1630	Apple LQP/Diablo/Xerox/Qume/NEC

Some manufacturers may also have other models which are compatible with printers on the above list. If in doubt, consult your dealer or the printer manufacturer.

NOTE: There are a number of printers which are almost compatible with Diablo and Qume printers. Unfortunately, almost isn't good enough and they often won't work properly if you use the "Apple LQP/Diablo/Xerox/Qume/NEC" filter.

For a printer which is not compatible with any of the printers on this list, several generic filters are available. These filters provide only a limited set of functions, however.

If your printer has the capability to do a backspace for overstriking, the "Other (with backspace)" filter should be used. Many letter quality printers can use this filter.

If your printer can do a carriage return without a linefeed, the "Other (w/o bsp & no auto LF)" filter should be used. Many dot matrix printers can use this filter. However, special settings for the switches in the printer may be required.

If your printer forces a linefeed after a carriage return, you must use the "Other (w/o bsp & with auto LF)" filter. This filter provides the capability to print only simple text. Bold, underlining and super/subscripting will NOT be available.

Setting your Filter

Once you have determined which filter to use, you must tell Word Juggler. There are two ways to set the filter. The correct way depends on whether the filter is a "User" filter or not. Any filter in the above table prefixed by "User" is a user filter.

If the filter you need for your printer is NOT a "User" filter, you set it from the EDIT CONFIGURATION menu. To do this, type "E" and press RETURN in the Word Juggler main menu. Use down arrow to position the cursor to the "Filter" line. Use right arrow to set the filter to the correct value. Then simply press Space to record the configuration on disk.

If the filter you need to use IS a "User" filter, you set it using the Word Juggler Utilities program. To do this, press RETURN in the Word Juggler main menu. This will take you to text entry mode. Hold down the SOLID APPLE key and press "1". The main menu of the Utilities program will appear. Type "5" and press RETURN to permit installation of a user filter.

A menu of filters is displayed. Type the number of the filter you need and press RETURN (do NOT type the number for "Other"). The filter is installed. Type "0" and press RETURN to exit to text entry mode. Hold down OPEN APPLE and press "m" to get back to the Word Juggler main menu.

Filter Capabilities

The following table lists the capabilities of each of the printer filters. "All" means that the filter supports bold printing, underlining and super/subscripting as well as 10, 12 and 15 pitch.

Filter name	Capabilities
Apple LQP/Diablo/Xerox/Qume/NEC	All plus micro-space justify
NEC (35x0/55x0/77x0)	All plus micro-space justify
Other (with Backspace)	Bold, underline
Other (w/o bsp & no auto LF)	Bold, underline
Other (w/o bsp & with auto LF)	None
User: Anadex	Bold, underline, pitch
User: Apple DMP	All
User: Scribe	All
User: Epson MX	Bold, underline, no 12 pitch
User: Epson FX & RX	All (no 12 pitch on FX)
User: Data Products	All
User: Okidata	All

Micro-space justify is a feature available for certain letter quality printers which allows them to justify text by inserting small fractions of a space between words and letters rather than by inserting whole spaces.

Using Sheet Feeders

A special option is provided to allow Word Juggler to use a sheet feeder. This option will work with many, though not all, sheet feeders.

To enable the sheet feeder option, press RETURN from the Word Juggler main menu. Hold SOLID APPLE and press "1" to activate the Utilities program. A message near the bottom of the screen indicates whether the sheet feeder option is enabled. If it isn't, type "9" and press RETURN.

Return to the Word Juggler main menu by typing "0" and pressing RETURN; then hold down OPEN APPLE and press "m".

Finished at Last

Word Juggler is now configured. Remove the diskette and put on a new write protect tab. Do not use the old write protect tab because it may fall off inside your drive.

You should repeat the above configuration for your Word Juggler BACKUP diskette.

Word Juggler and the Videx Ultraterm

If you have an Ultraterm video display card card installed anywhere in your Apple //e, Word Juggler will automatically take advantage of the features of this card. When you boot Word Juggler, it will ask you for the screen format to be used when you are editing text. It will then ask you for the screen format to be used when you use the Display command to show your document in final form.

The format you select for edit mode should be eighty columns wide. If you select a wider format, Word Juggler will not take advantage of the additional columns. The format you select for DISPLAY mode may be any width or length. If the number of lines in the format you select is more than 24, the horizontal scrolling feature will not be available. However, if the screen format you select is sufficiently wide, this will not be a consideration.

Make sure that the Ultraterm's video attribute switches are set to display characters with the high bit set in inverse. Remember, that certain monitors do not handle certain screen formats well. Consult your Ultraterm manual for details.

If you do not wish to use the Ultraterm during a particular session with Word Juggler, just press and hold the SOLID APPLE key as soon as the boot up process begins. Continue to hold it down until you get to the Word Juggler main menu. The Ultraterm will not be used. If you wish to permanently disable use of the Ultraterm, DELETE the file named WJ.CONSOLE on your Word Juggler master diskette.

Using this Manual

Chapter 1 is this chapter.

Chapter 2 is a tutorial on using Word Juggler. Read through it first and follow all the instructions. You may even want to repeat some of the lessons. Even if you're a real hot shot you should at least do lessons 3 and beyond.

Chapter 3 covers the Lexicheck spelling checker.

Chapter 4 is reference material. There are certain sections which you will want to read after you have finished the tutorial. These sections are mentioned at the end of chapter 2.

Appendix A lists all error messages that Word Juggler may produce and describes each one. For certain errors it describes how to avoid the error.

Appendix B contains information of interest primarily to programmers. The first part defines the format of document files. The second part describes how to write a user printer filter. Listings for two of the filters contained on the Word Juggler disk are also provided.

The Glossary gives definitions of certain common terms.

Repair and Replacement

The Limited Warranty covering this product is given at the beginning of this manual. Read it carefully. Basically it says this: If within 90 days of purchase a Word Juggler or Lexicheck diskette fails to function properly through some error on our part, we will "repair" or replace it at our option. It should be returned to us postpaid and properly packed (see below) along with the following:

1. Proof of purchase and purchase date.
2. A description of the problem and its cause.
3. A description of the system on which the program is being used (amount of memory, peripherals attached, cards installed, etc.).
4. Your Warranty Registration card if you haven't sent it in already.

This applies only to the original purchaser, and does not apply to any product which has been used prior to its sale by any dealer or distributor.

In the event that we have not received the Warranty Registration card, no warranty service will be provided.

After the 90 day period (or in the event that the failure is not our fault), the diskette will be recopied, if returned postpaid, for a charge of $10. If the diskette must be replaced, the charge will be $15. Enclose payment with your disk to avoid C.O.D. and shipping charges. If payment does not accompany your diskette, you will be billed C.O.D. **You cannot obtain a replacement diskette without returning one of the Word Juggler diskettes.**

Shipping Diskettes

When mailing a diskette, do not just put it in a plain envelope. Even a padded envelope is not sufficient. The post office has a tendency to bend things. This generally destroys diskettes.

You should sandwich the diskette between two pieces of **corrugated** cardboard and then put it in an envelope. Write the magic incantation "DO NOT BEND" on both sides of the envelope. Alternatively you may purchase special diskette mailers from your local dealer, such as the Floppy Box from ALF Products.

Software Updates and Upgrades

Fill out and mail in the Warranty Registration card supplied with Word Juggler. If it becomes necessary for Quark to provide a corrected version of your software, you will be notified of any errors being fixed and any new features which you may get as a side effect. Instructions describing the return procedure will be included with the notification.

From time to time, enhanced versions of Quark products are released. The owner of an early version may obtain the enhanced version for a nominal fee. The fee is based on the significance of the upgrade and Quark's actual materials and handling costs. Upgrades requiring substantial replacement of physical materials or which incorporate significant

improvements over the previous product version are more costly than those which can be handled by a simple disk recopy.

The Quark Courant

The Warranty Registration card will also put you on the mailing list for the Quark Courant, our quarterly newsletter. The Courant contains information on new products and product upgrades as well as hints on using Quark products and other information of general interest.

Comments and Suggestions

If you have suggestions for changes or improvements in this product, or suggestions for a new product, just drop us a line. Your comments are always welcome.

Quark Incorporated
2525 West Evans, Suite 220
Denver, CO   80219

TUTORIAL

This tutorial is meant to guide you through the basics of operating Word Juggler. It presumes that you are minimally acquainted with the Apple (that you know how to put a diskette in the disk drive, etc.). Go through it step-by-step. Even if you are an experienced user, you should scan each lesson briefly; and you will probably want to follow along with later lessons (three and beyond).

Lesson 1
Getting Started

You are going to start learning about Word Juggler by using it to type a simple letter. In order to continue with this lesson you will need a blank diskette. Do not touch any of the exposed magnetic recording surfaces of the diskette. Fingerprints can render the diskette useless.

Make sure there is no write protect tab on the diskette. If there is, it probably means someone has important information stored on it. Select a different diskette. Remember, all information on the diskette will be erased so don't use an important diskette (like the Word Juggler or Lexicheck diskette).

Start by booting Word Juggler. If you have never booted your Apple before, the easiest way is to turn off the computer's power using the switch on the back and then turn the power on. On the Apple //e, one of the disk drives will whirr and a light on its front panel will illuminate. Insert the Word Juggler master diskette into this drive with the proper orientation and close the door. On the Apple //c, insert the diskette into the built in drive.

On the Apple //e, you may wish to insure that the disk is properly centered by opening the door and closing it again. This technique is referred to as double clamping.

A message will appear on the screen as the word processor is loaded into memory. Once loading is complete, remove the Word Juggler diskette. You are now in a menu which allows you to perform various special functions.

At this point you can type in the number or name of any function you wish to perform and press the RETURN key. (Whenever Word Juggler asks a question you will always need to enter your response and then press RETURN.) Type the number 11 and press RETURN. Word Juggler beeps. Only numbers from 1 to 9 are allowed.

If you make a typing error, the DELETE key may be used to erase the character you typed last. Type "JELLY". Press the DELETE key five times to erase "JELLY".

Formatting a Blank Diskette

You will use the FORMAT function to make a diskette for document storage. A new diskette must always be formatted before it can be used. But a diskette should generally, be formatted only once. Formatting it again will erase all information stored on the diskette.

Type "FORMAT" (don't type the quotes) and press the RETURN key. You may type the word using lowercase letters if you wish. Only the first letter ("F") is really required. Correct any errors by using the DELETE key.

Word Juggler will display a numbered list of the disk drives connected to your Apple as well as information about how they are connected. You merely enter the number of the drive you would like to use for formatting. If you have only 1 or 2 drives, you should probably type "1" and press RETURN. This will access the drive from which you booted your computer. (This is slot 6, drive 1 if your machine is set up according to Apple's recommendations.)

You will then be asked for the volume name you want to use for the diskette. The volume name is just a name by which you can refer to the diskette. It may consist of any sequence of up to 15 characters composed of letters, digits and dots and starting with a letter.

Put the blank diskette in the drive and type "TUTORIAL" (don't type the quotes) and then press RETURN. You may also type "tutorial", Word Juggler will capitalize all letters in the name automatically.

If you get an error (indicated by the flashing word "ERROR" in the lower left corner of the screen) you will have to try formatting again. Turn to Appendix A to determine the cause of the error, then press the ESCAPE key and attempt the FORMAT again.

If you don't get an error, Word Juggler will ask you to press the space bar to continue with the Format. Since you want to format the diskette, press the space bar. If you didn't want to format the diskette you could have pressed the ESCAPE key. You would then be returned to the menu (in fact, ESCAPE will almost always return you to the menu).

Formatting takes about 30 seconds. When the format is complete, you will be returned to the menu.

If you get a "Write protected disk" error, your diskette has a write protect tab on it. If this is the diskette you really want to format, remove the write protect tab and put the diskette back in the drive. Press ESCAPE to clear the error condition and retry the FORMAT.

An "I/O error" indicates that there is a problem reading information on the diskette. Remove the diskette and make sure it is installed with the proper orientation. Insert the diskette gently until it clicks into position, then close the door. On the Apple //e, open and close the door again (double clamping) to insure that the diskette is properly centered in the drive. Press the ESCAPE key to clear the error condition. Try formatting the diskette again. If you still get an I/O error, the diskette is probably defective. Try another diskette.

A brief note on errors. The ESCAPE key always clears an error. Whenever you see an error with which you are unfamiliar, refer to Appendix A. This appendix gives a more detailed description of the error and in some cases gives a probable cause or suggests a fix.

You should now be in the menu and have a newly formatted diskette in your disk drive. Get a catalog of the diskette by typing "CAT" (or "C" or "2") and pressing RETURN. When you are asked "Which directory", type ".D1" and then RETURN (if you just press RETURN, ".D1" will be assumed). ".D1" an abbreviated name Word Juggler uses to refer to drive 1 (the built in drive on an Apple //c). If you have a second disk drive, you could put the diskette in the second drive and obtain a Catalog by specifying ".D2".

Since you haven't stored any documents on this diskette,
Word Juggler tells you that there are no documents on the
diskette and indicates that you should press the space bar
to continue.   It also tells you that the name of the
diskette and that there are 273 blocks of free storage on
the diskette. Press Space to return to the menu.

Elementary Editing Functions

Now you are going to learn about some of the functions
involved in entering text into Word Juggler.   Start by
pressing the RETURN key to put you in text entry mode. The
screen is cleared except for a line at the bottom called the
status line, and a flashing plus sign in the upper left hand
corner called the cursor. Without pressing the RETURN key
type the following:

    Now is the time for all good men to come to the aid
    of their country.

Use the DELETE key to correct any mistakes you may make.
Note what happens to the cursor. Note also that the column
number in the status line at the bottom of the screen
changes as you type.

If the CAPS LOCK key is down, all the letters will be
capitals. If this has happened, press the CAPS LOCK key to
release it, delete all the characters using the DELETE key
(just hold down DELETE until the beeping starts) and then
enter the line again.

Use the left arrow key to back up to the first letter of the
word "men".   Now type "mice and ".   The letters are
inserted. Go forward to the "t" in "their" using the right
arrow key. You want to delete the word "their". To do this
you use the **Delete Character** key. This is how the "Q" key
is labeled. To access this function, hold down the OPEN
APPLE key and press "q". The "t" will be deleted. Press
the **Delete Character** key five more times to remove the word
"their" and the space following it. Now type the word "my"
and a space. Go back to the word "and" and press the **Delete
Word** key twice (hold down OPEN APPLE and press "w").
Behold, the words "and" and "men" have vanished.

Finally, back up to the start of the line and press the
Delete Line key (OPEN APPLE "1").   The whole line
disappears! If you are using Word Juggler in 40 column
mode, press **Delete Line** again to erase the remaining text.

2-4

There are a number of specially labeled keys on your keyboard. The functions of most of these keys will be covered in this tutorial. Note, however, that to access any of these special editing functions, you must press and hold the OPEN APPLE key before pressing the special key. Some keys have two functions. One of the functions is activated by holding OPEN APPLE and pressing the key. The other is activated by holding both OPEN APPLE and SHIFT and pressing the key. Often the labels on such keys list both functions. The leftmost function (lower function on the Apple //e) is accessed just by holding the OPEN APPLE key, the rightmost (upper) function is accessed by holding both OPEN APPLE and SHIFT.

Typing a Simple Letter

In a moment you are going to type this letter (don't start yet):

Mr. Johnston
1234 Elm St.
Lakewood, CO   80215

Dear Mr. Johnston,

Our records indicate that your account is now overdue by 30 days. We must receive your payment for the outstanding balance of $0.03 by no later than January 23, 1981 (that's only 7 days, Mr. Johnston). If we have not received payment by that date, we will be forced to turn your account over to our collection agency.

If you have any questions regarding this notice, please contact us immediately. Your prompt attention to this matter is greatly appreciated.

Have a nice day,

Martha P. Hornblower
Harassment Supervisor

What you will see on the screen is not the same thing that will be printed. When you enter text, it always goes from the far left edge of the screen to the far right edge. You put instructions (called commands) into the middle of the text to control such things as margin settings, centering

and paging. When you tell Word Juggler to print a copy of your document it will readjust the text to take all these things into account.

Before you begin typing the letter there are a few things that that should be done (like make sure we're all using the same margins). Press the ESCAPE key. The bottom line of the screen now says "Press a command key". A command key is any one of the keys labeled by the command strip above the keyboard. Press the **Left Margin** key (SHIFT and "9"). When "Left Margin?" appears at the bottom of the screen, type "0" and press RETURN. Now press ESCAPE and then press the **Width** key (SHIFT "0"). When "Width?" appears, enter "56". These "commands" set the left margin and the width of the printed portion of the text. Don't worry about exactly what they're doing. They will be discussed in more detail later.

Add a few more commands: put in a **Page Length** of 66, a **Length** of 54 and a **Top Margin** of 6. If you make any mistakes, use the up arrow key to move the cursor to the line containing the incorrect command. Then press the **Delete Line** key (OPEN APPLE "1") and put in the correct command.

Move the cursor to the line following all the commands. Start the letter by typing in "Mr. Johnston", then pressing the RETURN key. A small checkerboard square (called an "end of line marker") appears on the display to indicate the end of line. Type in each line of the address followed by a RETURN. Then press RETURN to leave a blank line. Then type "Dear Mr. Johnston," and press RETURN. Press the RETURN key again to leave a blank line.

Now type in the first paragraph. Do not press the RETURN key until you are through with the entire paragraph. Press the RETURN key only after you have entered the entire paragraph. Press it once more to leave a blank line. Type in the last paragraph then press the RETURN key twice.

Use either the right arrow key or the space bar to move to column 18 (use the column number at the bottom of the screen to tell when you get there). Hold down the OPEN APPLE key and press the TAB key. You have just set a tab at column 18. Type "Have a nice day," and press RETURN three times. Press the TAB key to get to column 18. Type "Martha P. Hornblower" and press RETURN. Press TAB, type "Harassment Supervisor" and finally press RETURN.

Cursor Movement

Press and hold down the left arrow key. The cursor starts to back up. (After a key has been held down for a short time it begins to repeat automatically.) When it gets to the beginning of a line, it goes to the end of the previous line and continues backing up. The right arrow key works similarly, but goes in the opposite direction.

The upward and downward pointing arrows may be used to move the cursor up or down one line. Move the cursor to the "H" in the word "Harassment". Press the up arrow key twice. When you pressed it the second time, the cursor jumped over to the far left. This is because Word Juggler will not normally let you move the cursor past the end of a line.

Move to the end of the letter using down arrow. Hold down the OPEN APPLE key and press the left arrow key several times. It moves you to the start of the previous word. Similarly, holding OPEN APPLE and pressing right arrow moves you to the start of the next word. Try it.

Besides these functions, a number of additional cursor movement functions are available using the "E", "S", "D" and "X" keys. These keys form a "diamond" shape on the keyboard. The "E" key is associated with functions that go up. The "S" key is used for functions that go left. The "D" key is used for functions that go right. And the "X" key is used for functions that go down.

Hold down the OPEN APPLE key and press "E". The cursor will be moved to the start of the letter. Hold down OPEN APPLE and press the "X". The cursor will move to the end of the letter. Move the cursor to line 10 (the line number at the bottom of the screen will tell you when you get there). OPEN APPLE "D" moves the cursor to the last character in the current line. Try it. OPEN APPLE "S" left arrow moves the cursor to the left edge of the screen. Try this too.

A Little Help

At first, all the cursor movement functions may be a bit hard to remember, so a special "Help" option is provided. The information used by Help is stored on the Word Juggler diskette. Put the Word Juggler diskette in the disk drive. Activate the Help facility by pressing (OPEN APPLE and "?").

A list of topics is displayed. You can get information on any topic by typing its number and pressing RETURN. Enter the number for cursor movement. A screen of text is displayed. Read the text on the screen. Pressing Space will get the next screen full of information. When you have read all screens, pressing Space will return you to the main Help menu. Press ESCAPE to exit the Help facility.

Some More Cursor Movement

There were a number of cursor movement functions mentioned by the Help facility that we haven't covered yet.

There are special keys for absolute cursor movement. The only difference between the absolute cursor movement keys and the regular arrow keys, is that they allow you to go past the end of a line.

Move the cursor to one of the lines with only an end of line marker on it (the checkerboard). If you were to press right arrow now, the cursor would move down one line. Instead, hold down the OPEN APPLE and CONTROL and press "D". You move past the end of the line. Move to column 20 using OPEN APPLE CONTROL "D". Still holding OPEN APPLE and CONTROL use "E" and "X" to go first to the top of the letter, and then to the bottom. The cursor will not be readjusted to the end of the short lines!!

Since use of the arrow keys requires you to move your fingers off of the home row, there is also a way to use special CONTROL letters instead of the arrow keys. The "E", "S", "D" and "X" keys form a cursor movement diamond in the keyboard. CONTROL "E" may be used instead of up arrow, CONTROL "S" may be used for left arrow, CONTROL "D" for right arrow and CONTROL "X" for down arrow. You may use these special cursor controls and the arrow keys interchangeably.

Displaying Tab Settings

Hold OPEN APPLE and press "v" (**Tabs**). A line at the top of the screen now shows where your tabs are set. Set and clear a few tabs for the fun of it (OPEN APPLE TAB sets or clears the tab at the current position). Pressing TABS (OPEN APPLE "v") again turns off the tab display. Leave the cursor on line 10 when you are through.

Getting the Picture

Let's see what your letter will look like when it's printed. Just press the **Display** key (OPEN APPLE "o") and presto, the first 23 lines of the letter are displayed. If you have a 40 column display, you will notice that not all of the letter is shown. This is because the letter is 56 characters wide. You may use the left and right arrow keys to scroll the letter from side to side so you can see it all.

A standard page has 66 lines, so press the space bar and the next 23 lines will be shown. Press space again to show the last 20 lines, and press it yet again to return to text entry mode. Note that the cursor is still on line 10.

Press **Display** again to show the first 23 lines. Now press the ESCAPE key. You are returned to text entry mode, but the cursor is no longer on line 10, it's at the end of the letter. If you press ESCAPE while a document is being "displayed", the cursor is left at the point where you stopped the display. This allows you to display your document on the screen, and whenever you see an error, you can press ESCAPE and the cursor will be left in the general vicinity of the error.

Saving your "Opus" on disk

Now, let's store this letter on diskette so you can refer to it later. Since you want to store the letter on your blank diskette, remove the Word Juggler diskette and put in your blank diskette.

Press the **Go to Menu** key (OPEN APPLE and "m"). Then type "STORE" (or "S" or "4") and press the RETURN key to store the document. Word Juggler will ask for the name of the document by asking "Pathname?". Pathname is just a secret code word for document name (actually, a pathname can be considerably more complex than a simple document name). Type "LETTER" and press the RETURN key. You may type the name in lowercase letters if you wish, Word Juggler doesn't care. The letter is stored on the blank diskette and you are returned to the menu.

Get a catalog of the diskette (this time just press RETURN when you are asked "Which directory?"). Sure enough, "LETTER" is there. Press Space to return to the menu.

SPECIAL NOTE: Never store documents on the Word Juggler
diskette. First, it probably has a write protect tab on it.
Second, you cannot back it up. Third, if you ever return
the diskette to Quark for a software upgrade or update, all
your files on the diskette will be lost.

Do a NEW command (enter "NEW" or "N" and press RETURN). You
are returned to text entry mode and the letter is erased
from memory. The letter is still on the diskette. Prove it
by going back to the menu and using LOAD to get the letter
back. To do this, press the **Go to Menu** key, then enter "L"
and press RETURN. Type "LETTER" and press RETURN when you
are asked for the path name.

Note that the name of your document is now in the status
line (if you are using an 80 column display). Word Juggler
will display the name of the current document here, if it is
known.

This is the end of your first lesson. You may wish to go
back and repeat it. If so, just use the same diskette
again. If not, save the diskette for Lesson 2.

Lesson 2
More Simple Operations

If you are continuing directly on from Lesson 1, skip this paragraph. Otherwise, boot the Word Juggler diskette. Then put your "TUTORIAL" diskette in the drive and load "LETTER". To do this type "L" and press RETURN. When you are asked for the pathname, type "LETTER" and press RETURN.

Changing Things Around

Suppose you wish to send similar letters to Mr. Brown and Mr. Green. You must change the name everywhere it occurs. Changing the name is easy. Put the cursor at the start of the letter by pressing OPEN APPLE "E". Press the **Auto Change** key (OPEN APPLE "-"). When Word Juggler says "Find what?", type "Mr. Johnston" and press RETURN. When Word Juggler says "Change to?", type "Mr. Brown" and press RETURN. If the letter was correct, and you answered the questions correctly, the letter will be to Mr. Brown. If you got a "String not found" error, you either mis-typed "Mr. Johnston" when Word Juggler said "Find what?" or the name is wrong in the letter itself. Use ESCAPE to clear the error and try again.

There are two different kinds of changes. **Auto Change** changes all occurrences of one set of characters to another. **Change** is like **Auto Change** except that whenever a match is found, you must indicate whether you want each change made or not. Press OPEN APPLE "E" and then the **Change** key. Change "Mr. Brown" to "Mr. Green". On each occurrence of "Mr. Brown" you are asked to press either RETURN to make the change or Space to go on to the next one. Press RETURN each time. If you were doing this on a long document with many changes and you decided not to continue changing, you could press ESCAPE to abort the **Change** command.

Both **Change** and **Auto Change** have two options. Normally, they only make changes starting from the cursor and going to the end of the document. Text above the cursor is left unaltered. If you use the SHIFT key in conjunction with either **Change** or **Auto Change** (e.g. OPEN APPLE SHIFT "O" or OPEN APPLE SHIFT "-"), all matches are changed starting from the beginning of the document. This is just like pressing OPEN APPLE "E" (to go to the start of the document) before using **Change** or **Auto Change**.

Printing your Letter and Addressing Envelopes

Now, print your new letter by using the **Print** key (OPEN APPLE "p"). If your printer is turned on, properly connected and properly configured, the letter will be printed. If nothing is printed, you get a SYSTEM FAILURE message or something else bizarre happens, your printer may not be properly connected and configured (Refer to Chapter 1 for information on printer configuration).

You may also want to put the address from the letter onto an envelope (if your printer can't print envelopes, skip this paragraph). Put an envelope in your printer and position it vertically to the correct position for printing an address. Position it horizontally so that the left edge of the envelope is at the farthest left position at which your printer can print. Move the cursor to column 1 of the "Mr. Green" line. Press the **Transmit Line** key (OPEN APPLE "r"). The first line of the address has been printed! Observe that the cursor has moved down one line. Press **Transmit Line** again to transmit the next line to the printer. Then press it once more to send the last line of the address.

Variables and Simple Form Letters

You may send letters like this every day. It would be unpleasant if you had to change the names and amounts every time. It would be nicer if Word Juggler would ask for the name and the amount when it needed them. Press SHIFT and the **Auto Change** key to start changing things from the beginning of the document. When "Find what?" appears, enter "Mr. Green". When "Change to?" appears, hold down the SOLID APPLE key and press "<". Then type "name", then hold down SOLID APPLE and press ">". This bizarre thing enclosed by an inverse "<" and an inverse ">" is called a variable. Press RETURN to make the replacements.

When you print the letter, Word Juggler will ask for the name. If you type "Ms. Higa", it will substitute your input everywhere it sees the variable "name". Now move to the "0.03". Delete it using **Delete Word** and replace it with a variable called "amount" (remember the inverse "<" and ">"). Replace the address line with the variable "address", and the city/state line with the variable "city.state.zip". **Be careful! Variable names can't have any spaces in them.**

Print the letter. Answer the questions with whatever suits your fancy.

This is a very simple form letter. It is also possible to print a number of letters from lists of names and addresses created by Quick File, PFS or Word Juggler. This process is covered in Lesson 4.

You will be printing out this letter many times during the remainder of this lesson. Answering the questions every time would get to be quite tedious. To avoid this, go back to the menu and LOAD the old version of LETTER you stored. Since you have made changes to the letter in memory which have not been stored on diskette, Word Juggler will warn you that these changes will be lost if you continue. You don't care, so tell it to continue by entering "YES" (or just "Y"). You will be asked for the name of the document to load. Note that if you just press the RETURN key, "LETTER" will be loaded. Just press RETURN.

Printout Enhancements

Word Juggler allows you to print text as underlined or bold on many printers. Suppose you wish to emphasize the phrase "by no later than January 23, 1981" by underlining it. Position the cursor on the "b" in "by". Hold down the SOLID APPLE key and press "u". An inverse "u" appears. This indicates that underlining is on. Now move the cursor to the space after "1981". Hold down the SOLID APPLE key and press "U" (capital U). An inverse capital "U" appears. This turns off underlining. Print the letter.

If you want the phrase printed in bold too, position the cursor over the inverse "u" and hold SOLID APPLE and press "b". Then move to the inverse "U", hold down SOLID APPLE and press "B" (capital B). Print the letter again. Suppose you only want bold. Eliminate the inverse "u" and "U" using the **Delete Character** key and print the letter again.

Display the letter using the **Display** key. Note that the bold section is shown in inverse. In fact, even if it were underlined, it would be shown in inverse. This is a limitation of the Apple computer. All printout enhancements will always be shown as inverse when displayed. Go back to text entry mode by pressing ESCAPE to abort the **Display.**

Margins and Spacing

There is a problem with this letter. The text is all the way over at the left edge of the paper. You solve this by

setting the left margin to something besides one. Press
OPEN APPLE "E", then press **Delete Line** to remove the old
left margin setting. Now press the ESCAPE key. The status
line changes to "Press a command key". Press the Left
Margin key (you will need to use SHIFT). "Left Margin?"
appears in the status line. Type "10" and press RETURN. A
line is inserted which gives the new left margin. Print the
letter again. There are now ten blank spaces in front of
every line.

Suppose you want the words to line up at the right margin as
well as at the left. Move the cursor to the line after the
Left Margin, press the ESCAPE key, then press the **Justify**
key. Print the letter again.

Suppose the left margin should have been set at 15. You
will need to change it. To do this press OPEN APPLE "E",
then ESCAPE, Left Margin, and "15" RETURN. Unfortunately,
the "Left Margin 10" is still there. To remove it, move the
cursor to that line and press **Delete Line**.

You can double space your letter by using the **Double Space**
command. Try it. You probably don't want the closing of
the letter double spaced, so put a **Single Space** command just
before the closing. Display the letter.

If you would like the printed area of the letter to be wider
or narrower, you can use the **Width** command. Move the cursor
to the old **Width** line. Delete it using **Delete Line**. Press
ESCAPE then the **Width** key. When Word Juggler asks for the
width, type "80" then RETURN. Press **Display**. Only the
leftmost 80 characters (40 characters if you have a 40
column display) of the letter are shown. You may now use
the left and right arrow keys to "scroll" the document from
side to side so you can view it all. Try it.

Delete the **Width** command using **Delete Line** (Remember to get
out of **Display** first). Put in a new **Width** command with a
setting of 30. Display the document and note what happens
to the closing. Since it is wider than 30 characters,
Word Juggler must make it into two lines. Remove the **Width**
and Left Margin commands using **Delete Line** and replace them
with settings which look good to you (you may wish to move
the closing one way or the other by inserting or deleting
spaces).

If you are printing on letterhead, you may need to move the
text down a few lines before you begin printing. There are
two ways to do this. The easiest way is to insert a **Skip**

command to leave blank lines. Move to the "Dear ..." line and press ESCAPE then the **Skip** key, and enter the number of blank lines to leave. Display the letter. This works well if you only want the blank lines on the first page. If you need them at the top of each page, you should probably reset the top margin. To do this, delete the **Skip** command and the old **Top Margin** command, then enter a **Top Margin** command (ESCAPE then the **Top Margin** key) using a margin of 14.

Display the document. Word Juggler will give you an "Improper margin settings" error. A page has 66 lines (you may change this using the **Page Length** command). The top margin was 6 before we changed it. The printed text was 54 lines long (**Length**), so you print on lines 7 through 60. When you changed **Top Margin** you were trying to use lines 15 through 68. There are no lines 67 and 68, so Word Juggler gave an error.

Press ESCAPE to clear the error. The cursor is positioned at the point where the error was detected. Put in a **Length** command with a value of 50 (remember to remove the old one). Now you have a two line bottom margin. Check that everything works by doing a display document.

Go to the menu and enter "S" to store the new letter. You can just press the RETURN key if you want to use the same name you used last time, so press RETURN. After a moment, Word Juggler will ask you if you really want to delete the old document from disk and replace it with the new one. If you didn't want to do this, you would type "NO" or just "N", or you could even press ESCAPE. Answer "YES" or just "Y". You may also press just RETURN. Word Juggler will assume that you mean yes.

And so we come to the end of another thrilling lesson with Word Juggler. Tune in next lesson for more exciting adventures in word processing.

Lesson 3
Advanced Word Processing

Now you are going to edit a document which is essentially complete, but has a several problems. Insert the Word Juggler diskette (if required). Type "LOAD" and press RETURN. Type "?" and RETURN to get a catalog. Load the document named "PRODOS". You get a "File type mismatch" error. Not everything in the catalog is a document. Press ESCAPE to clear the error. Load the document named "SAMPLE". Put your own diskette back in the drive.

Print a copy of SAMPLE.

NOTE: This document is two pages long. If you are using single sheets instead of continuous form paper, press ESCAPE and then the **Pause** key. This will put a command into the document which will cause it to stop printing at the end of every page. You may then put in a new sheet of paper and press the space bar to have the next page printed.

A brief observation may be in order here. The word "command" is used in two distinct contexts in this manual. One context is to refer to text editing commands like **Find** and **Change**. The other is to refer to commands that control printout, like **Top Margin** and **Length**. Commands of the first kind are labeled on the special keycaps and are activated by using the OPEN APPLE key. Commands of the second type appear on the command strip above the keyboard. Their use **must** be preceded by ESCAPE.

Positioning Titles

The first problem is that the title for section 2 occurs at the bottom of the first page. Move the cursor to "SECTION 2" using the **Find** key (just press FIND and enter "SECTION 2" in response to "Find what?"). The document looks OK. It just happens that there was enough space for the title on the page and not enough for even one line of that section. You **could** solve this problem by starting a new page before section 2. But if you later expanded section 1 by 4 or 5 lines, you would get the last few lines of section 1 on the second page and section 2 would start on the third page. You could insert a few blank lines in front of section 2, but then if you shortened section 1, the title might move back onto the bottom of the page.

The **Need** command resolves this dilemma. In order to print the section title, there needs to be at least three lines remaining on the page (one for the title, one for the blank line and one for the first line of the section). Press ESCAPE then the **Need** key and enter "3". Use **Display** to observe the effect. Put a **Need** 3 in front of the other two section titles as well, in case they develop similar problems later on.

The section titles should be centered. Position the cursor to the first section title. Press ESCAPE then the **Center** key. This turns on centering. **Display** the document. Clearly, centering must be turned off after the title has been centered. Position the cursor on the line after the section title. Put in a **Justify** command to turn off centering and turn on justification. Do the same thing to the other two section titles and observe your handy work using **Display**.

The right margins don't have to be smooth. Replace all **Justify** commands with **Ragged Right** commands (use ESCAPE and then SHIFT "2"). Observe the result using **Display**.

In section 2, the phrase "bold printing" should be printed in bold face. Move the cursor to the "b" in "bold". Hold SOLID APPLE and press "b". An inverse "b" appears to indicate the start of bold text. Move the cursor after the word "printing", hold SOLID APPLE and press "B". An inverse "B" appears to indicate the end of bold text. Underline the word "underlining" using SOLID APPLE "u" and SOLID APPLE "U". Inverse "u" and "U" indicate the start and end of underlined text, respectively.

Now, the formulas immediately below require some adjustments. If you are using an Apple letter quality printer, Apple Imagewriter or certain other printers, you will be able to do superscripting and subscripting. If your printer can't do super/subscripting, the next paragraph doesn't apply to you, so you may skip it.

The "2" after "MC" should be a superscript. Position the cursor over the "2". Hold SOLID APPLE and press the up arrow key. An inverse up arrow will be displayed and superscripting will be turned on. Press the right arrow to move over one space. Hold SOLID APPLE and press down arrow. An inverse down arrow will be displayed (well, an inverse "v" actually, but its the best we could do) and superscripting will be turned off. Now, the "6", "12" and "6" in "C6H1206" should be subscripts. Position the cursor

to the "6". Hold SOLID APPLE and press down arrow to start
subscripting. Press right arrow. Hold SOLID APPLE and press
up arrow to turn off subscripting. Move to the "12". Make
it into a subscript in a similar way, then do the same to
the other "6". These formulas should probably be centered.
Put in a **Center** command. Don't forget to go back to **Ragged
Right** before the next line. Print the document with **Print.**

Actually, all the text before section 1 is supposed to be a
title page. Move the cursor to just before the **Center** for
"SECTION 1", press ESCAPE then the **New Page** key.

Other Text Insertion Modes

The "Basic instruction..." line on the title page should be
all capital letters. You **could** delete the old title and
type in the new one. But then you would need to remember
the old title. It would be nice if you could just type over
the old title.

The normal text entry mode is called "Insert mode". A
special mode called "Replace mode" allows you to type over
the top of existing text. The "B" key is allows you to
switch between insert and replace modes. OPEN APPLE "b"
puts you in insert mode and OPEN APPLE SHIFT "B" puts you in
replace mode.

Press OPEN APPLE SHIFT "B" to get into replace mode. Move
the cursor to the "Basic instruction..." line. The cursor
is no longer a flashing plus sign. Now it alternates
between the character it is over and an inverse version of
that character. Press the CAPS LOCK key (this will
automatically make all letters capital). Retype the title.
As you type the new characters will replace the old
characters rather than being inserted. When you are
through, release the CAPS LOCK key and then go back to
insert mode by pressing OPEN APPLE "b". The cursor should
now be a flashing "+". If it isn't, make sure you have the
CAPS LOCK key released and try OPEN APPLE "b" again.

The entire first paragraph in section two is somewhat
tongue-in-cheek and is probably not really appropriate.
Move the cursor to the start of that paragraph. Press down
the **Delete Word** key and hold it until the beeping starts,
then let go. The entire sentence was deleted except for one
space. This works well if you always use two spaces after
your periods (or question marks or exclamation marks). But
you need to delete the whole paragraph. Press the **Delete**

Paragraph key. Now use **Delete Character** to get rid of the two extra end of line markers.

Look at the third from the last line of your printout. The word "Apple" has been mis-spelled as "Apxle". Move the cursor over the "x". Correct this by pressing the **Delete Character** key to remove the "x" and then type "p".

When a Word isn't a Word

If you look again at the third from the last line of your printout, you will notice that Word Juggler printed the word "Apple" at the end of one line and the word(?) "//e" at the beginning of the next. Probably you would like "Apple //e" all on the same line. However, since "Apple" and "//e" are separated by a space, Word Juggler thinks of them as two words. Change the space between "Apple" and "//e" to a tilde (the little squiggle on top of the key next to CAPS LOCK). Now "Apple //e" is all one word, but there's a squiggle in it. You can tell Word Juggler to print a space whenever it sees a tilde by using the **Replace** command. Press OPEN APPLE "E", then ESCAPE and the **Replace** key ("5").

When Word Juggler says "Replace?", press the tilde key. When it says "With?", press the space bar. Use SHIFT **Change** (OPEN APPLE SHIFT "O") to change all occurrences of "Apple //e" to use the tilde. Check your work using **Display.**

More Ways to Display and Print

Unfortunately, the change you were interested in was on page three. You had to press the space bar to skip through pages 1 and 2! Yuk! Hold down SHIFT and press **Display** (OPEN APPLE SHIFT "O"). When Word Juggler says "First page to display?" enter "3". The display starts with the third page. This function is called **Special Display.**

Suppose you want two copies of only page 2. Hold down the SHIFT key and do a **Print** (hold down both OPEN APPLE and SHIFT and press "P"). Answer the three questions Word Juggler asks with "2", "2", and "2". This is called **Special Print.**

Hanging Indents

There are still a few more problems with this document. Look at the numbered list in section three. Each of the items has two lines. It would be nice if the second line of each item was indented 3 spaces. Move the cursor to the first item and put in an **Indent** command with a value of three. Use **Special Display** (OPEN APPLE SHIFT "0") to look at the third page.

Clearly, the indenting should be turned off after the list is complete. Move the cursor to the line after the list and do an **Indent** of zero.

This indenting is backwards from what you usually think of as indenting. But it is actually more useful. Paragraph indents can be easily done using space or the TAB key.

Numbering Pages

Now you need to number the pages. Press OPEN APPLE "E". Press ESCAPE then the **Text** key (SHIFT "3"). For "Text at Line?" enter "64". For "Column (L, R, C, Alt. or number)?" enter "C" (for Center). The **Text** command allows you to position your page numbers (or other text) either at a specific column, at the left margin ("L"), centered ("C") or at the right margin ("R"). Additionally, it allows it to alternate ("A") between the left and right margins.

The **Text** command <u>must</u> be followed by a line of text. In this case, the line of text that follows the **Text** command will be printed on line 64, centered on every page. Type "GEORGE" and press RETURN. Press **Display**. Observe that "GEORGE" occurs at the bottom of every page.

Delete the old **Text** command and put in a new one. Use "1" for the line number. When asked for the column number, enter "1". Display the document to observe where "GEORGE" appears. Now try line 20, column 1. An error occurs! You can only use **Text** to put things in the top or bottom margin. Line 20 is not in either of these margins.

Clear the error by pressing ESCAPE. Change the **Text** command back to line 64, and enter "A" for "Column". This will cause page numbers to align with the left margin on even numbered pages and the right margin on odd numbered pages.

This is nice for putting headings and footings on pages, but it doesn't number them. Fortunately, Word Juggler has a special variable for page numbering (remember variables?). Move the cursor up to "GEORGE" and delete it using the **Delete Paragraph** key. Hold down SOLID APPLE and press "<", then type "page" then hold SOLID APPLE and press ">".

Use **Display** to observe the effect. This time, instead of pressing the space bar to show the next 23 lines of the document, press the down arrow key and observe the effect. Remember that the key will automatically repeat if you hold it down.

Moving Text

Page numbering is nice, but you probably don't want the title page numbered. The **Text** command and the line following it should really be moved right after the **New Page** command that starts page 2. Hold down the SHIFT key and press the **Move** key (OPEN APPLE SHIFT "4"). The status line changes to "Move to start of block to move and press Space." Move the cursor to the **Text** command and press the space bar. The status line changes to "Move to end of block and press Space." Press the down arrow key followed by a OPEN APPLE "D". The area you are going to move is now highlighted in inverse video.

Press the space bar to mark the end of the block. The screen jumps and the lines you are moving vanish. The status line now reads "Move to insertion point and press Space." Move the cursor to column 1 of the line following the **New Page** and press Space. Presto! The lines have been moved. As many as 4,000 characters can be moved in this way.

Changing Page Numbers

Observe the effect of moving the **Text** command using **Display**. Now the page numbers start with 2! Word Juggler numbered the first page as 1 even though it didn't print a number on it. To make numbering start at 1 you must reset the page number using the **Let** command. Move the cursor to the line just after the **New Page** command and press ESCAPE then the **Let** key, then hold SOLID APPLE and press "<" then type "page" then SOLID APPLE ">" followed by "=1" and RETURN. Use **Display** to observe the effect.

If you would like dashes on either side of your page number, go up to the line with the "page" variable on it (the one following the **Text**, not the one following **Let**) and put dashes on either side of that. If you want "1-" to precede the page number, just put "1-" in front of the "page" variable. If you want page numbering to start with "54325", change the "1" in the line following **Let** to "54325". Try some of these.

There are more complicated things you can do with page numbering and **Let**. They are covered in more detail in Chapter 4.

Moving Hordes of Text

Print out the document as it is now.

There is only one more major problem with this document. Section 3 should logically precede sections 1 and 2. It is easy to change the section numbers, but you have to move all the text too. You could just use the **Move** key like you did earlier, but there is something else you should learn. Word Juggler provides you with a method to store a portion of your document onto diskette, and then a way to load it back to any place you like. You will use the **Block Store & Delete** function (on the "6" key). This allows you to store section 3 on diskette. It will also delete the section from memory. Then you use **Block Load** (the "5" key) to put it back in front of section 1.

Hold down OPEN APPLE "6" for **Block Store & Delete**. Move the cursor to the start of section 3 (the **Need** command) and press the space bar. Now move the cursor to the end of section 3 and press the space bar. The section to be stored will be highlighted in inverse video. Word Juggler will ask you for a pathname (the name for the block you are about to store). Enter "temp". Section 3 will be stored on the diskette and deleted from memory.

To load section 3 back, position the cursor to the start of section 1 (the **Need** command). Press the **Block Load** key (OPEN APPLE "5"). When Word Juggler asks for the pathname of the block, enter "temp". Section 3 will be inserted before section 1. Now you just have to change the numbers on the sections and you are through.

Using **Block Move** would have been much easier. The above procedure is useful primarily when you want to move blocks

of text from one document to another, or when a block of text is very large.

The next two lessons cover fairly complex topics. Lesson 4 covers form letters and Lesson 5 describes how you go about inserting information generated by another program into a Word Juggler document. Unless you have an immediate need to use these functions, you should probably skip these lessons for the moment. Come back to them when you are comfortable with everything you have learned so far.

For the moment, you should probably skip to the last section in this chapter, Post Script. It mentions a few of the concepts that haven't been covered in this tutorial which you may wish to investigate on your own. You should also make sure to go through the tutorial on the Lexicheck spelling checker in Chapter 3.

Lesson 4
Producing Form Letters

Word Juggler has the capability to produce form letters
using a variety of sources for an address list. It can also
be used to produce mailing labels (one label across only)
and a variety of other interesting things.

For short lists, it is possible to use Word Juggler itself
to create the list. For longer lists, the ability to read
data from Quick File and PFS is provided. All these
functions are accessed using a single key (SOLID APPLE and
"2"). This is called the **Print Form** key.

Word Juggler Mailing Lists

Print Form gives you a simple way to produce form letters
for small mailing lists. A Word Juggler document containing
a list of names and addresses (and possibly other
information) can be easily created. No additional program
needs to be purchased.

Creating a Data File

We'll start out with a simple example for producing form
letters from a list of names and addresses. Begin by
booting the Word Juggler diskette. When Word Juggler has
finished booting, go to text entry mode (press RETURN).

A simple form for an address has five pieces of information
in it, name, address, city, state and zip code. Since there
are five pieces of information, type "5" and press RETURN.
Then you need to type in the names for each of the five
pieces of information. Each piece of information is
referred to as a field in computer jargon (thus the "5" you
typed first is referred to as the field count). After you
have typed in each field name, press RETURN. When you are
through, the document should look like this:

```
5 ▓
NAME ▓
ADDRESS ▓
CITY ▓
STATE ▓
ZIP.CODE ▓
```

You can use lowercase letters if you like. You should not use a space to separate the words "ZIP" and "CODE", use a "." instead.

Now you're going to put in some addresses. The first address is:

Mark Q. Randall
515 SW 5th
Lakewood, CO 80218

Since the file has 5 fields you must use five lines to type it in. So you should type:

Mark Q. Randall
515 SW 5th
Lakewood
CO
80218

Now, type in the following addresses in a similar fashion:

Mr. P. Yakamoto   Victor Jellison
432 P Street   36 2nd St. East
Denver, CO 80234   Baton Rouge, LA 70806

Anette Haller   Dan Jimson
3396 El Camino Ave.   19517 Bismuth Drive
Buffalo, NY 10088   Pueblo, CO 80217

If you typed five lines for each address, pressing OPEN APPLE "X" should leave you on line 32, column 1.

NOTE: In a properly formed mailing list file, pressing OPEN APPLE "X" should put the cursor in column 1. If you then press up arrow twice, the line number displayed in the status line should be evenly divisible by the field count (the number at the top of the mailing list).

This is your mailing list. You can now add names and addresses to it, change them, and delete them. Remember that you will always have to add or delete 5 lines at a time. Put the "TUTORIAL" diskette (the one you created in Lesson 1) in the disk drive (use the second disk drive if you have one). Store this list on the disk as "MAIL.LIST" (use ".D2/MAIL.LIST" for the name if you are using drive 2).

Printing a Form Letter

Using drive 1, load the file named "FORM.LETTER" from the Word Juggler master diskette. Notice the use of the variables NAME, ADDRESS, CITY, STATE and ZIP.CODE. These are the same names you used in the heading of "MAIL.LIST". The plot thickens.

Now you need a way to print one copy of this letter for each name in "MAIL.LIST" substituting the information in the file for the appropriate variables. If you are not using continuous form paper, put a **Pause** command at the top of the document. Now, with the Word Juggler diskette installed in drive 1, hold down the SOLID APPLE key and press "2" (**Print Form**). When you do this Word Juggler loads in a special program whose mission in life is to print form letters.

You are shown a menu of three options. Select option 1 to use a Word Juggler mailing list. The status line should now say "Pathname?". If you have only one drive, put the diskette containing "MAIL.LIST" into drive 1 and type "MAIL.LIST". Otherwise, enter the appropriate pathname for the "MAIL.LIST" file (probably ".D2/MAIL.LIST"). Word Juggler should now produce a copy of the form letter for each of the five addresses stored in "MAIL.LIST". As each letter is printed, the information from the mailing list about that record is displayed. If an error is produced, consult Appendix A for information.

NOTE: Almost every time you want to use **Print Form** you will have to have the Word Juggler master diskette in drive 1 before pressing SOLID APPLE "2". If you use **Print Form** twice in a row, you will not have to re-install the Word Juggler diskette. If you have used **Display, Copy, Move,** Lexicheck or accessed the Word Juggler Utilities program since the last time you used **Print Form**, you will have to make sure the Word Juggler diskette is in the drive before pressing SOLID APPLE "2".

Adding a Field

Suppose you want to store a past due amount too. Load "MAIL.LIST". If the field "PAST.DUE" is added, there are six fields. Change the "5" on line 1 to a "6". Add the field name "PAST.DUE" after the "ZIP.CODE" line (remember the RETURN). Insert a line after each zip code which gives a past due amount (e.g. $12.34). Use "$0.00" for Mark Q. Randall. Make up other values for everyone else.

Now if you press OPEN APPLE "X", the line number should be 38 (and the column number should be 1). Store "MAIL.LIST" back on the disk. Load "FORM.LETTER" from the Word Juggler diskette. If you were to print the letters now, an identical set of letters would result. Insert the word "of" and the variable "PAST.DUE" right after "If we do no receive payment for the past due amount". Remember that variable markers are entered using SOLID APPLE "<" and SOLID APPLE ">".

Put in a **Pause** command at the top of the letter. Press **Print Form** (SOLID APPLE "2"). Enter the pathname for "MAIL.LIST". The first letter will be printed. Swell, huh? If you want to print the next letter, press Space. Otherwise, press ESCAPE to stop the printout of the other letters.

Printing Mailing Labels

Now that you know how to print form letters you'll need to know how to print mailing labels for the envelopes. Go to the menu and do a NEW command. Now we'll build a very short document to print labels. If you use the normal 1 up continuous form labels, each label is six lines long. Put in a **Page Length** of 6, a **Length** of 6 and a **Top Margin** of 0. Put in a Left Margin of 8. Type the following (read bold "<" and ">" marks as variable markers):

<NAME>
<ADDRESS>
<CITY>, <STATE> <ZIP.CODE>

If you have continuous form labels put some in the printer. If not, use plain paper and your imagination. Press **Print** (not **Print Form**) and answer all the questions. This will allow you to check the alignment of the label. Adjust the alignment if required. You may also wish to use a different left margin setting.

Now press **Print Form**, select option 1 and give the pathname for "MAIL.LIST". Zap! Your labels are printed.

STORE this document on your "TUTORIAL" diskette for use later in this lesson. Use the name "LABEL".

Storage Capacity

You may build data files like the "MAIL.LIST" file which have from 1 to 99 fields. Field names have the same restrictions as variable names. They may not contain spaces, printout enhancements (e.g. Bold), and they may not be more than 78 characters in length (38 if you are using a 40 column display). Lowercase letters are treated the same as their uppercase counterparts.

If you have a 128K machine you can store about 780 lines (1023 on a 40 column display but they are shorter lines). This allows you to manipulate a file of 128 6-field entries (169 for 40 column display) using Word Juggler. The general formula for the number of entries you can manipulate in a file containing F fields is INT(779/F-1) for a 128K machine (INT(1022/F-1) for a 40 column display). If you need more entries than this, you will have to break your list up into several files or use Quick File or PFS to store them.

Letters (and mailing labels) are produced in the order in which the data is entered in the mail list file. The only way to change the order of printing is to physically rearrange the mail list file.

Form Letters Using Quick File

Print Form also allows you to access data from files created by Quick File. You just load your form letter as you normally do. Then you press the **Print Form** key. Select option 2 to access Quick File. Insert your Quick File diskette into drive 1 and press Space. A list of the Quick File files is displayed and you select the appropriate Quick File file. Your form letters are printed! As each letter is produced, the information for that letter is displayed.

The variable names you use in your document are just the Quick File Category names. However, you must replace any spaces in the Category names with dots. Thus, if one of the Quick File categories is "Vendor name", you would use the variable "Vendor.name" in your Word Juggler document.

Letters (and mailing labels) are produced in the same order as the data is stored in the Quick File file.

Form Letters Using PFS

PFS files can also be used with **Print Form**. Again, you load your form letter as you normally do. Then you press the **Print Form** key. Select option 3 to access PFS. Insert your PFS diskette in drive 1 and press Space. You will be asked for verification of the correct PFS data file. If the correct diskette is installed, answer "Yes" or merely press RETURN. Your form letters are printed! As each letter is produced, the first page of the PFS form for that record is displayed.

The variable names you use in your document are just the PFS field titles. However, you must replace runs of spaces in titles with a dot. Leading and trailing spaces in the name don't count, and trailing colons and dots are ignored. Thus, if one of the PFS titles is "Vendor name:", you would use the variable "Vendor.name" in your Word Juggler document. If a PFS field has no title, a variable like "#FIELDn" may be used, where the "n" is the sequential number of the null PFS field (numbering from 1). Fields from other than the first page of the form may be used even though they are not displayed by **Print Form**.

In the event that a PFS field title takes up more than one line on the PFS form, you should get the title from the first line of the title.

Letters (and mailing labels) are printed, in order, starting with the last entered PFS form. **There is no way to produce a list in sorted order.**

Selecting Portions of the Mailing List

Word Juggler has one more feature that can be used effectively with **Print Form**. Commands are provided which allow you to selectively print portions of documents depending on the values of certain variables. This allows you to add or remove paragraphs from the printout for only certain individuals, or even to entirely suppress printout for some people on your list. The **If, Else** and **End If** commands provide this capability. These commands resemble functions used by computer programmers, so go over them slowly. They are difficult to understand.

The **If, Else** and **End If** commands can be used when you are printing form letters using Quick File or PFS files, as well as with Word Juggler mailing lists. They even have

occasional uses at other times when you are working with documents other than form letters. This section, however, primarily covers their use with a Word Juggler mailing list.

Load the "LABEL" document which you stored on your "TUTORIAL" disk. Suppose you only want to print a label for someone if their zip code is less than 50000. Press OPEN APPLE "E". Press ESCAPE and then the If key ("="). The command If appears. How strange! The line following the If tells which labels to print. Type the following (read bold "<" and ">" as variable markers):

<ZIP.CODE><"50000"

The bizarre thing following the If is called an expression. Now press OPEN APPLE "X". Press ESCAPE and then End If ("+"). End If appears. Now everything between the If and the End If will be printed whenever the zip code is less than 50000. More generally, things between If and End If are printed whenever the expression is true. Use Print Form and the MAIL.LIST file to prove this.

You can also print the label only for numbers greater than or equal to 50000 by changing the "<" to ">=". Try it.

In fact, you can do all sorts of comparisons, namely, "<" (less than), ">" (greater than), "<=" (less than or equal to), ">=" (greater than or equal to), "=" (equal to), and "<>" (not equal). You could also have used a single quote instead of a double quote around the value. This is necessary if the value in quotes contains a double quote mark.

But the fun doesn't stop here. Suppose, instead, that you wanted to print only labels for people in either Colorado or New York. Replace the expression after the If with the following:

<STATE>="CO" | <STATE>="NY"

The vertical bar is read as OR. The OR is called an operator. Print out the labels to make sure this works too.

You have another operator. The "&" (read as AND) can be used in place of the "|". Replace the "|" with "&" and print the labels. Nothing is printed! That's because no one is simultaneously in both Colorado AND New York. Change the part of the expression after the "&" to <PAST.DUE><>"$0.00". Now print the labels. Labels will be

printed for accounts in Colorado which have a non-zero balance.

Manual Selection of Entries

Print Form always displays the data it is using from the mailing list on the screen. This makes it possible to use a special version of the **Let** command in conjunction with **If** to manually select the entries for which you want form letters produced.

Load "FORM.LETTER" from the Word Juggler diskette. Press ESCAPE and then the **Let** key. Type "<PRINT.IT>?" and press RETURN. (The bold < and > should be entered as variable markers.) Press ESCAPE and the **If** key. Type "<PRINT.THIS>=''" and press RETURN. Press OPEN APPLE "X". Press ESCAPE and then the **End If** key.

This bizarre use of the **Let** command forces Word Juggler to ask you for the value of "PRINT.THIS" before printing each letter. If you press just RETURN, the letter will be printed. If you type anything else (e.g. "N" and RETURN), the letter will not be printed.

Press **Print Form**. Select option 1. Use the "MAIL.LIST" file to print form letters. When "PRINT.THIS?" appears, examine the data on the screen. Press RETURN to print the letter. Press "N" and press RETURN to skip the letter.

Advanced Information

Suppose you had text after the **End If**. This would be printed every time. So you can use **If** and **End If** to print a special message only to certain individuals. There is also a way to use **If** to select between two messages. One will be printed when the expression after the **If** is true, and the other will be printed if it is false. The command that lets you do this is called **Else**. You enter an **Else** by pressing ESCAPE and "E".

Load the file "FORM.LETTER2" from the Word Juggler diskette. It illustrates a complex use for **If** and also demonstrates the **Else** command. Study it carefully to see how it works.

Those of you who are familiar with programming have immediately recognized the **If**. Here are a few additional facts that might be of interest to you.

1. **Ifs** may be nested up to 127 deep.
2. Order of evaluation in expressions is left to right unless modified by parenthesis.
3. There is a unary operator "-" which does a boolean NOT.
4. All comparisons are done as string comparisons. This means that numbers only compare properly if the numbers being compared both have the same number of digits before and after the decimal point (if there is one).

Additional information about **If** is provided in Chapter 4.

Lesson 5
Using Information Produced
by Other Programs

A special program is supplied with Word Juggler to allow you
to insert text created by VisiCalc or other programs into a
document. The **Utilities** key (SOLID APPLE "1") allows you to
do this. (The **Utilities** key also provides other functions
which are discussed in Chapter 4.) Just like the **Print Form**
key, the **Utilities** key requires the presence of the
Word Juggler diskette in drive 1.

DOS 3.3 Text Files

DOS 3.3 text files are created by a number of different
programs, most notably VisiCalc. You merely position the
cursor to the place where you want the DOS 3.3 file inserted
and then press the **Utilities** key (SOLID APPLE "1"). You
select the option to insert DOS 3.3 text files and then
enter the DOS 3.3 file name. You may obtain a catalog of
the DOS 3.3 disk by entering a "?" if you wish.

Here's how you do it with VisiCalc. Boot the VisiCalc
diskette. Enter this three by three array of numbers into
VisiCalc to use for an example spread sheet:

```
    1        2        3
   99     1234        0
  -12        0     17.2
```

Now you use the "/PF" option in VisiCalc to put a VisiCalc
spread sheet on disk. Just put a DOS 3.3 diskette in your
disk drive (the "TUTORIAL" disk won't work because its a
ProDOS disk). Position the VisiCalc cursor over the "1"
(the upper lefthand corner of the spread sheet). Type
"/PF". Enter "WJ" as the file name. You will be asked to
position the cursor to the lower righthand cell of the
spread sheet. Move the VisiCalc cursor to cell C3 (17.2).
Press RETURN. The spread sheet will be stored on disk.

Once the disk stops, boot Word Juggler. Press RETURN to go
to text entry mode. Press SOLID APPLE "1" (**Utilities**).
Select the option to insert a DOS 3.3 text file. Put your
DOS 3.3 disk in drive 1. Press "?" and RETURN to get a
catalog. The file "WJ" is the one you just created with
VisiCalc. Enter "WJ" to load the spread sheet.

Apple Pascal Text Files

Apple Pascal text files are created, just coincidentally, by Pascal programs. Certain Pascal programs have an option to put their output on disk rather than sending it to a printer. The Pascal Editor also creates Pascal text files. Your dealer will be able to tell you if a particular program has this option and how to use it.

To insert a Pascal text file into a Word Juggler document, you just press the **Utilities** key and select the option to insert a Pascal text file (the Word Juggler disk must be in drive 1 when you do this). Then you insert your Pascal disk. You may use "?" to display a list of available Pascal text files. Then you merely enter the name of the file you want to load.

ProDOS Text Files

It is also possible to access ProDOS text files other than those created by Word Juggler. The ability to do this is built right into Word Juggler. You just use the **Block Load** key. You position the cursor to the place you want the text inserted and press **Block Load.** When you are asked for the path name of the file to insert, type "#" and then the path name of the file to insert. The "#" tells Word Juggler that it did not create this document.

Post Script

This is the end of the Word Juggler tutorial. There are several capabilities that have not been covered in this chapter. Notably, **10 Pitch, 12 Pitch, 15 Pitch, Triple Space, Insert Document, Comment, Printer Control, Ragged Left, Copy, Block Store** and **Block Delete,** as well as some of the ramifications of **Find, Change, Text, Let** and replace mode. You should review the material on these functions in Chapter 4.

If you have a Thunderclock and an Apple //e, check out information on predefined variables in the Variables section of Chapter 4.

The information in Chapter 4 on typing mode is **very** important. It tells you how to type directly onto the printer. This allows you to perform simple typing tasks without the necessity of making a special document for them. Study this section carefully!

Chapter 3 covers use of the Lexicheck spelling checker. Lexicheck is an tremendously useful tool even if you are a good speller. It is extremely simple to operate and exceptionally quick.

CHAPTER THREE
LEXICHECK

Overview

Lexicheck is a high performance spelling checker designed for use with Word Juggler. Lexicheck comes with a dictionary of 50,000 words (a dictionary of legal terms is available at extra cost). When you check a document, each word in the document is compared against the words contained in the dictionary. You are informed of any words not in the dictionary.

You may also make your own dictionaries. When you check the spelling of a document, Lexicheck will check the words in the document against both the main dictionary and any other dictionary you specify.

Note that Lexicheck checks ONLY spelling. It does not check for proper capitalization or punctuation. It also makes no attempt to verify that any sentence makes sense. Sentences like:

<p style="text-align:center">I red the book.
or
i and john are Going two the the.</p>

will pass the spelling check just fine.

Lexicheck regards any uninterrupted sequence of up to 32 letters as a word. Words may also contain imbedded apostrophes.

Certain common constructs will be flagged as unknown by Lexicheck. Lexicheck doesn't know many abbreviations (such as CA, NY, etc.). It will not verify that an abbreviation is properly followed by a period (that's punctuation). It will also attempt to interpret the "th" in "107th" as a word. Since "th" is not a word, Lexicheck marks it as unknown.

As you use Lexicheck to check your documents you will notice that it doesn't know some relatively simple words.

Considering that each English root word has several forms (e.g. find, finds, finding, found), 50,000 words aren't really very many since each is entered separately in Lexicheck's dictionary. The words in the main dictionary are chosen because they are commonly used in "average" documents, not because they are simple words. You will have favorite words which will not be in the dictionary. There will also be words which are specific to your location such as city names or local slang. Of course, there will be words that are specific to your particular industry or profession. These are the kinds of things you will be adding to your own dictionaries.

The ability to have more than one personal dictionary is an important one. If you do several kinds of work, the words you use in each area may be different. By having different dictionaries for the two areas, the size of each dictionary can be kept small, thus improving performance.

A word of caution on adding words to your personal dictionary: don't just add every word that is properly spelled. This would make your personal dictionary huge. There is a limit to the size of your dictionary (determined by the amount of storage on a disk). The time required to check a document will increase as you add more and more words. Only add words which occur frequently or which are difficult to spell.

Using Lexicheck

Boot Word Juggler. Load the document named "SAMPLE" from the Word Juggler disk. Hold down the SOLID APPLE key and then press the "7" key. (You will need to put the Lexicheck disk into the disk drive first.) You will go to the Lexicheck menu. Just press the RETURN key to check the spelling. Note that you are told the first letter of the words which are being checked.

After the spelling has been checked, the display shows you how many "words" are in your document (485), how many of them are unique (209) and how many of the unique "words" were not recognized by Lexicheck (11).

Press the space bar to review the words that are in error. The first "word" is the "non" in "non-printing". Well,..., that's OK, so press the space bar to continue. The next "word" that wasn't in the dictionary is the "th" in "10th",

that's OK too, so press Space again. Note that the
incorrect word is shown in the status area at the top of the
screen and is also highlighted in inverse video in the lower
portion of the screen where it **first** occurs in your
document.

The next unrecognized word is "uppercase". It's OK, so
press Space. So's the next one, so press Space again. The
next word is "ectasy". It is wrong! It should be
"ecstasy". Press RETURN. You will be asked for the
replacement. Enter the correct replacement. Continue
spacing through the "words". Only one other word is really
wrong. When you get to "Apxle", press "?" (actually, "/"
will work too). A list of correct words with similar
spelling will be displayed. "Apple" is among those listed.
You should press RETURN and then enter "Apple" to replace
"Apxle" with "Apple".

The word "booted" is the last word that is unrecognized.
When you press Space here, you are put back into text entry
mode. You have just checked and corrected your first
document.

Let's do it again. Hold the SOLID APPLE key and press the 7
key. Note that the display indicates that the words will be
displayed in document order. That was what happened last
time. Entering "2" displays them in alphabetical order, so
enter "2". Voila! Enter "2" again. You're back to
document order. Enter "2" yet again to get back to
alphabetical order.

There are very few one letter words. Also, you rarely
misspell one letter words. You do, however, often use
single letters as labels for lists. For this reason, you
probably don't want to bother to check the "spelling" of one
letter words. But I know that you have a burning desire to
check the spelling of the one letter words in this document,
so enter a "3" to enable that option (entering "3" again
will disable it).

Now, press RETURN to check the document again. When the
statistics are displayed, press Space. The first word that
is displayed is "booted". (Note that the "Apxle" which you
corrected to "Apple" is not displayed even though it would
have been alphabetically first.) "booted" is OK, so press
Space. The next word that is displayed is "C" in "C6H1206".
Well, "C" is a one letter word. Press Space. The next word
is "digress". Press Space. Press Space for "e", too. It
displays "ecstasy"! But you fixed that! Obviously,

"ecstasy" isn't in the main dictionary. Life is tough. That's enough for now. Press ESCAPE to get out of Lexicheck.

If you used the word "ecstasy" a lot, it would be nice to teach it to Lexicheck. You do this by putting the word in your own dictionary. Then, when you first use Lexicheck, you can tell it the name of your dictionary and it will use it in addition to the main dictionary. You are now going to make your own dictionary.

Remove the write protect tab from the Lexicheck disk and put it back in the drive. Get a catalog of that disk. If there is a file on it called "MY.DICT", delete it. This delete was just to get rid of an old dictionary that may have been sitting around from someone using this tutorial before. You should not delete a dictionary just because it is there (unless you really want to lose the dictionary). Go back to text entry mode.

Hold SOLID APPLE and press "7" to get back into Lexicheck. Note that it is still set for alphabetical display order and is still set to check one letter words. Checking one letter words is a nuisance. Turn that check off by entering "3". If you prefer alphabetical order, leave it set this way. Otherwise set it back to document order. Now enter "1". You will be asked for the name of your auxiliary dictionary. Enter ".D1/MY.DICT". This will put your auxiliary dictionary on the disk in drive 1 and call it "MY.DICT".

Press RETURN to check spelling. When the check is complete, press Space to review the words. Note that the status area at the top of the screen indicates that pressing OPEN APPLE Space will add the word to the dictionary. Press just the space bar for each word except "digress", "ecstacy", "karma", and "uppercase". For these words, hold down OPEN APPLE and press Space. After you have finished, the message "*** Updating Dictionary ***" will be displayed and the four words above will be added to your auxiliary dictionary.

Invoke Lexicheck again. Note that it has remembered the name of your auxiliary dictionary. It will remember this until you reboot the machine or turn the power off. Press RETURN to check the document again. There are now only six words it doesn't recognize. Space through them until you get to "unsure". Press OPEN APPLE Space to add this word to the dictionary. Continue spacing through the remaining words (if any) until you are finished and the dictionary is updated.

If you check the document again, you will find that "unsure" is now recognized as a correct word, too. Do it!

One more little problem. Your dictionary contains the words "digress" and "ecstasy", but it doesn't contain the various forms of those words such as "ecstasies", "digressing", "digresses", and "digressed". You can add these fairly easily. Begin by loading your dictionary. You do this by doing a regular LOAD but for the name you use "*.D1/MY.DICT". The "*" is very important since it tells Word Juggler that this is not a Word Juggler document, but an ordinary text file.

Notice that the dictionary is just a list of words separated by spaces and in alphabetical order. Also notice that they are all lowercase. Type in the following:

ecstasies digressing digresses digressed

Press SOLID APPLE "7". Check the spelling of this dictionary with additions. When you are told that it doesn't know the words, press OPEN APPLE Space to add them to the dictionary. Simple.

This is a simple way to add missing word forms to your dictionary. You must never load a dictionary, add words and store it back. If you do this and the words are no longer alphabetized, or if you forget the "*" in front of the name, the dictionary may not work properly.

If you want to remove words from a dictionary, just load it (remembering the "*"). You can delete words you don't want and store it back. In theory, you could also correct misspelled words this way, but if by correcting a word you change the alphabetical order, the dictionary will not work. To correct a word, it is best to delete the incorrectly spelled word and store the dictionary back on disk. Then, put the correct words at the end of the dictionary in memory and add them using Lexicheck (by checking the spelling of the dictionary and using OPEN APPLE Space).

Go to the Word Juggler menu and perform a NEW command. When you are returned to text entry mode, enter the following:

Yak, yak, yak, YAK!!!

Press SOLID APPLE "7" and then press RETURN. When the statistics are displayed on the screen, press Space to see the "misspelled" word. Note that the word "Yak" is

displayed, and note that the status area indicates that the word occurs more than once in the document. Press RETURN to change the word. Change it to "Yuk". "Yak" will be replaced by "Yuk". But that certainly doesn't mean that "yak" should be replaced by "Yuk". It should probably be replaced by "yuk". But, then again, what if "Yuk" is a proper name? Then "Yuk" would be the correct replacement. Lexicheck just doesn't know, so it asks for the replacement. Use "yuk". Note that both "yak"s are replaced. Now, what about "YAK". Hmmmmm. Who knows what it should do? It will ask for the replacement for "YAK". Enter "GEORGE".

In general, when you are replacing a word that occurs more than once, Lexicheck will ask for a different replacement each time it sees the word capitalized differently. If you capitalize a word in more than 4 distinct ways it will sometimes ask twice for certain replacements. Since there are 3 basic ways to capitalize (no cap, initial cap and all cap) you will probably never encounter this.

Using Word Guess Plus

Lexicheck is great for checking out a document once it is finished. But if you're like most people you will be typing along and need to enter a word that you're not sure how to spell. Word Guess Plus solves this problem. Using Word Guess Plus you can check the spelling of the word the cursor is on (or after).

Go to the Word Juggler main menu and use the NEW option to delete the document in memory. When you get to text entry mode, type "ancent" (this is a misspelling of "ancient"). Now press SOLID APPLE and then "8" to invoke Word Guess Plus. The screen is split and a list of similar words is shown. The words "ancient", "accent" and "ascent" are all similar.

At this point you can do two things. You can press ESCAPE to leave the word alone, or you can use the up and down arrow keys to select the proper replacement. Once a replacement has been selected, pressing RETURN will make the replacement. Press down arrow twice to select "ancient" and then press RETURN. The replacement will be made and the cursor will be left at the end of the word.

Press SOLID APPLE "8" again. Again, a list of similar words is displayed, but since "ancient" is in the dictionary, you

are notified of this fact and the current (correct) spelling is automatically selected.

What if there are no similar words? Type "xx" at the end of "ancient" and then press SOLID APPLE "8". The error "No similar words found" appears. Press ESCAPE to clear the error.

Word Guess Plus finds similar words by looking for words which differ from the indicated word in one of the following ways:

1. One letter is missing.
2. An extra letter is inserted.
3. A letter is wrong.
4. Two adjacent letters are transposed.

It also assumes that you got at least the first letter of the word right. Just because Word Guess Plus says that there are no similar words doesn't necessarily mean that there really are none. If you think you know another way to spell the word, you might try that spelling before giving up and going to a regular dictionary.

A Few Miscellaneous Notes

That's about it. Remember, if you will be checking a lot of the words Lexicheck doesn't recognize against a regular dictionary (the kind that are sold in stores everywhere), alphabetical display order is the best choice. If you will be just looking at them, document order is probably best since it follows the logical flow of the document.

Also, when using auxiliary dictionaries, you will probably want to store them on your second disk drive (if you have one). The Lexicheck dictionary is fairly large and uses most of the available disk space, so only small dictionaries can be put on the Lexicheck diskette. In general, you will use names for your auxiliary dictionary like ".D2/MY.DICT" or ".D2/MEDICAL.TERMS".

REMEMBER: TO ACCESS LEXICHECK, ALL YOU DO IS HOLD DOWN THE SOLID APPLE KEY AND PRESS "7" ("8" FOR WORD GUESS PLUS) WHEN YOU ARE IN TEXT ENTRY MODE. THE LEXICHECK DISK MUST BE INSTALLED IN DRIVE 1 WHEN YOU DO THIS.

Reference

Basic Specifications

The basic dictionary that comes with Lexicheck contains 50,000 words. For long documents, spelling is checked at a rate of 5,500 words/minute. If you have Lexicheck installed on a hard disk, the speed will probably increase depending on the speed of the hard disk.

For example, using a floppy based version of Lexicheck on a 7,200 word document (Chapter 2 of the Word Juggler manual for the Apple ///), the time taken to complete a spelling check was 78 seconds. (Time measurement taken starting from the instant RETURN was pressed to begin the check process and ending when document statistics are displayed on the screen.)

Performance, as measured in words/minute, is generally better for longer documents. (There is a certain amount of overhead associated with the checking procedure since it needs to read the whole 50,000 word dictionary.) A one word document takes 33 seconds to check. Adding an auxiliary dictionary will also increase checking time by an amount that is dependent upon its size.

Invoking Lexicheck

Holding down the SOLID APPLE key while pressing the "7" key causes the Lexicheck program to be loaded from disk and executed. The Lexicheck disk must be installed in the drive 1 before doing this. It must remain there during the spelling check since this disk also contains the dictionary.

The Lexicheck program will remain loaded in memory as long as you don't do a **Display**, a **Move** or **Copy**. It will also be removed from memory if you use another external program (such as **Terminus, Print Form** or **Utilities**).

When you use Lexicheck for the first time after booting Word Juggler, no auxiliary dictionary is selected, unrecognized words will be displayed in document order and one letter words will not be checked. If you change the settings of any of these, the changed values will be remembered until you reboot the system or turn it off.

Invoking Word Guess Plus

Holding down the SOLID APPLE key while pressing the "8" key causes Word Guess Plus to be loaded from disk and executed. Unless Word Guess Plus has been installed on the hard disk, the Lexicheck disk must be installed in the disk drive before doing this. It must remain there during the spelling check since this disk also contains the dictionary.

Word Guess Plus will remain loaded in memory as long as you don't do a **Display**, a **Move** or **Copy**. It will also be removed from memory if you use another external program (such as Lexicheck, **Print Form**, **Utilities** or Terminus).

When you use Word Guess Plus for the first time after booting Word Juggler, no auxiliary dictionary is selected. You may use Lexicheck to set the name of the auxiliary dictionary.

A Word

Lexicheck regards any sequence of up to 32 letters as a word. Imbedded apostrophes are allowed, but a word may not start or end with an apostrophe. In the event that a word is longer than 32 characters, all characters after the 32nd are ignored.

Replacing Incorrect Words

Lexicheck allows you to replace incorrect words in a document. When you do this, all occurrences of the word are replaced. In the event that the capitalization differs on different occurrences of the word, you will be asked for a replacement for each of the different types of capitalization. In the unlikely event that a word is capitalized in more than four ways, you may be asked for a replacement more than once. If you merely press RETURN when you are asked for a replacement, the word is left unchanged.

In some instances you may wish to examine each occurrence of an incorrect word on a case-by-case basis to determine the proper replacement. There is no astoundingly simple way to do this. A reasonable way, however, is to replace the word with some unique character (e.g. "\") followed by the word. Then, when you have finished checking the rest of the document, you can go back using the Word Juggler **Find** command and change each occurrence to the desired spelling.

Auxiliary Dictionaries

Auxiliary dictionaries are selected by using an option in the Lexicheck main menu. Auxiliary dictionary names may consist of from 1 to 15 characters. The first character must be a letter. Other characters may be letters, digits or dots.

Words are added to the auxiliary dictionary by pressing OPEN APPLE Space when Lexicheck displays the word on the screen for review. After all words have been reviewed, Lexicheck will add your new words to the auxiliary dictionary. It temporarily creates a duplicate of the auxiliary dictionary to do this. This means that you will not be able to create an auxiliary dictionary larger than half the size of free space on your diskette.

Normally when Lexicheck (or Word Guess Plus) is first invoked, there is no auxiliary dictionary selected. If you would like to a particular dictionary automatically selected, an option exists in the **Utilities** program to save the current auxiliary dictionary path on the boot disk. Once this has been done, the specified path will be assumed every time you boot Word Juggler. Refer to Chapter 4 for details.

Aborting Lexicheck

You can exit from Lexicheck at almost any time by pressing the ESCAPE key. The only times this will not work is when the actual spelling check is in progress and when words are being added to the auxiliary dictionary. If you press ESCAPE while the misspelled words are being reviewed, any words which you told Lexicheck to add to the auxiliary dictionary will not be added.

DICTIONARY MANIPULATIONS

There are a number of special operations that can be performed on auxiliary dictionaries (the ones you create yourself). These are discussed below. None of these operations can (or should) be performed on the main Lexicheck dictionary (called "WJ.DICTIONARY). This dictionary is specially compressed and cannot be accessed directly by Word Juggler.

Copying Auxiliary Dictionaries

It is easy to make copies of an auxiliary dictionary using Word Juggler. All you have to do is LOAD the dictionary using Word Juggler (remember that the dictionary file name must be preceded by "*"). Then you just STORE the dictionary wherever you want (remembering that the dictionary file name must be preceded by "*").

You may also use the file copy option in the ProDOS Filer or the Apple //c Utilities.

Deleting Auxiliary Dictionaries

Unneeded auxiliary dictionaries can be removed from the disk using the DELETE option in the Word Juggler main menu. Do not delete the file named "WJ.DICTIONARY". This is the main Lexicheck dictionary.

Removing Words from Auxiliary Dictionaries

To remove a word from an auxiliary dictionary, you just load the dictionary using Word Juggler (remember that the dictionary file name must be preceded by "*"). Then you remove any word you don't want by positioning the cursor over the word and pressing the **Delete Word** key. When you have deleted all undesirable words, you can store the dictionary back on disk.

Adding Words to Auxiliary Dictionaries

The most obvious way to add words to an auxiliary dictionary is through the use of the OPEN APPLE Space option when you are checking a document. The words will be added to the auxiliary dictionary. If you specify an auxiliary dictionary that doesn't exist, a new one will be created with the name you specify. If you have specified no auxiliary dictionary, you cannot add words. Words cannot be added to the main dictionary.

You should never try to add words to a dictionary by just loading it, typing in new words and storing it back. If you want to add specific new words, just do a NEW command and type in all the words you want to add. Then, press SOLID APPLE "7" to start Lexicheck (you will need to install the Lexicheck disk first). Set the auxiliary dictionary to the

name of the dictionary to which you wish to add the words. Then simply perform a spelling check on the list of new words you wish to add. As these new words are presented to you, press OPEN APPLE Space to add them to the dictionary.

Correcting Words in an Auxiliary Dictionary

Never attempt to correct words in an auxiliary dictionary by simply loading it, making the modifications and then storing it back. You should first follow the directions for removing the words. Then you should follow the directions for adding new words.

Format of Auxiliary Dictionaries

An auxiliary dictionary is simply a ProDOS text file where words are stored in lowercase and in alphabetical order. All words are followed by a space. The entire dictionary is terminated by a carriage return. The words in the dictionary may consist only of lowercase characters and the apostrophe character. The apostrophe may not be the first or last character in a word.

CHAPTER FOUR

REFERENCE

This chapter is divided into 10 sections. They are:

1. **General** - This mentions a few general facts which you should remember because you'll be using them often.

2. **The Menu** - This goes through the menu functions.

3. **Editing Keys** - This covers the cursor movement keys, the TAB key, and the RETURN key.

4. **Labeled Editing Keys** - The functions available using the specially labeled keycaps are covered.

5. **Typing Mode** - This explains the four typing mode functions.

6. **Printout Enhancements** - This tells how to invoke bold printing, underlining and super/subscripting.

7. **Variables** - This section describes the function of variables including the predefined variables for accessing date and time information.

8. **Printout Control Commands** - This section gives information on the various printout control commands which can be inserted into the text of a document.

9. **Form Letters** - This covers use of the **Print Form** key to produce form letters.

10. **Utilities** - This covers the functions provided by the **Utilities** key.

General

Here are a few facts you should know. They are presented in a purely arbitrary order.

1. ProDOS text files not created by Word Juggler can be loaded or (**Insert Document**ed) by preceding the pathname of the file with "*". Reports created by any ProDOS program that has the ability to print to disk can be inserted into Word Juggler documents in this manner.

2. When answering a yes or no question, only the first letter is significant. It must be either a "Y" or "N" (lowercase works too). Also, pressing just the RETURN key will be taken as a "yes" response.

3. Document names (and volume names) may be up to 15 characters long. They must start with a letter and may contain only letters, digits and dots. If you use lowercase letters, they will be converted to uppercase.

4. Word Juggler has made a special extension to ProDOS pathnames simplify to access files on a disk. You may refer to a diskette by its "device name" rather than its volume name. ".D1" means the boot drive. ".D2" means your second drive. You can even access a disk connected to a drive in slot 5, via ".S5". Slot 5, drive 2 may be accessed via ".S52".

   For example, you may the file "LETTER" in drive 2 as ".D2/LETTER". In CATALOG, you may type ".S5" in response to "Which directory?" to get a CATALOG of the disk in slot 5, drive 1.

5. The ESCAPE key will clear error conditions and abort most operations in progress. You will be returned to either text entry mode, or the menu. There are several exceptions to this. One is if you are in text entry mode (here, ESCAPE is used to enter commands). Also, certain operations such as **Find** and **Auto Change** cannot be stopped.

6. The ESCAPE key can also be used to abort a printout. However, Word Juggler completes printing the line it is currently working on before stopping. Also, some printers have a large internal buffer of characters. Thus it may be a relatively long time after pressing ESCAPE until the printout actually stops.

7. When you are entering data in response to a question, the only editing keys that work are: left arrow, right arrow and DELETE.

8. On a 128K machine you can have a document that contains about 785 lines of text (less any space used by variables). If your display is only 40 columns wide, you can have up to 1023 lines (but they are much shorter lines). Commands (such as **Center**) do not use up any memory. In any case, there is still an absolute limit of 1024 lines.

9. A newly formatted diskette contains 273 blocks. This is enough space for at least 1700 lines of text. This represents about 34 typewritten pages using 10 pitch and 6 lines/inch on an 8-1/2x11 page with 1 inch top and bottom margins and 1/2 inch left and right margins.

The Menu

When Word Juggler is first booted, you are put into the
menu. This menu contains options which allowing you to
perform a variety of special functions. To select an option
you merely enter its number and press RETURN. You may also
enter the first letter of its name (e.g. "L" or "l" for
LOAD, "C" or "c" for CATALOG, etc.) and press RETURN. To go
to text entry mode you just press RETURN.

CATALOG   (C or 2)

This will list the names of all the files stored in the
specified directory. <u>ALL</u> files are listed, not just
Word Juggler documents. You will be asked for the
directory name of the directory you want to view. Use
".D1" for drive 1 and ".D2" for drive 2. If you just
press RETURN, the directory specified by PREFIX will be
displayed. The catalog display gives the directory name
at the top of the screen and then lists the files in the
directory (up to 75 per page). If the directory is the
root directory for the volume, the number of free blocks
on the volume is also displayed.

Catalogs of disks mounted in drives other than drive 1
or 2 of the boot drive may be obtained be entering a "/"
followed by the volume name of the disk. The volume names
of all mounted ProDOS disks may be produced by using the
PREFIX function. You may also catalog a disk in a
particular slot by entering ".S" followed by the slot
number. Thus, ".S5" will produce a catalog of drive 1 in
slot 5. ".S52" will produce a catalog of drive 2 in
slot 5.

You may also print the directory on the printer by
preceding the directory pathname with an exclamation mark.
To print the default directory, just type "!" and press
RETURN. The printout will not include the free block
count.

DELETE   (D or 5)

This will remove the specified file from the disk. A full
blown pathname may also be used if you wish to remove the
document from a different directory than the one given by
PREFIX. Note that you can delete files which are not
Word Juggler documents, so BE CAREFUL!

You can get a CATALOG from inside DELETE by typing a question mark followed by the directory name (e.g. ".D2"). If you want a catalog of the default directory just type "?" and press RETURN. The free block count will not be displayed. Only the first 75 entries in the directory are shown.

EDIT CONFIGURATION   (E or 8)

This will allow you to define printer parameters and the default settings for certain commands. You modify fields by moving the cursor to the field you wish to change using up arrow and down arrow, then using the left and right arrow keys to change the value.

The first parameter you must specify is the slot number containing the printer interface card. The second parameter specifies which printer interface card you have installed in that slot. Only a few of the wide variety of interfaces have special entries for them in this field. However, almost all cards can use either the "Super Serial" or "Other" setting. You may wish to try the "Other" setting first. If the document is printed both on the screen and the printer when you use the **Print** key, try the "Super Serial" setting.

The third parameter ("Auto linefeed") specifies whether your printer generates automatic linefeeds upon receipt of a carriage return. If it is set to "Yes", Word Juggler will not send a linefeed after transmitting a carriage return. If it is set to "No", Word Juggler will transmit linefeeds after each carriage return. **WARNING:** If you are using a printer which is capable of microspace justification such as the Apple LQP, Qume, Diablo, etc. you must not configure your printer interface card to handshake using the ETX/ACK protocol. This will often result in your printer "locking up", especially when you are justifying or printing bold text.

The fourth parameter describes the type of printer you have connected. Chapter 1 lists the kinds of filter settings that should be used for most common printers. Note that if you have the "Auto linefeed" parameter set to "Yes", you cannot use the "Other (w/o bsp & no auto LF)" filter. A number of the filters are called "User" filters. These filters are not actually a part of the main Word Juggler program. You must use the **Utilities** program to properly install a user filter and to set the "Filter" parameter to "User". Details on the capabilities

of the various user filters and on how to install them is given in Chapter 1.

The "Strike count" parameter tells how many times a character should be struck to produce a bold character. This parameter is ignored by printers such as the Apple LQP, NEC and Qume which do bold printing in a special way. For a very few of the user filters, this parameter controls other features of the filter.

The "Space underline" parameter determines whether spaces are underlined in an underlined phrase.

The Left Margin, Width, Pitch, Page Length, Top Margin, Length and Spacing parameters determine the assumed value that will be used for these commands during printout (unless they are specifically overridden). They should be set to the values you use most commonly. The setting of Pitch also sets the default typing mode left margin to 40 for 10 pitch, 48 for 12 pitch or 60 for 15 pitch when the system is booted. If you don't have a microspacing printer and if you are not using a User filter that supports the Pitch commands, this parameter only affects the default typing mode margin.

FORMAT   (F or 6)

This will initialize a diskette for document storage. When FORMAT is selected, a numbered list of the disk drives connected to your system is produced. You first select the number of the drive you wish to use for the format. You then put a diskette into that drive. You must supply a "Volume name" which can be from 1 to 15 characters. The first character must be a letter. The other characters may only be letters digits and dots. The volume name should be selected to uniquely identify the things you will be putting on your diskette.

This operation totally erases the previous contents of the diskette, so BE VERY CAREFUL.

Go to text entry mode   (RETURN)

This will put you into the text entry mode. You may return to the menu by pressing the **Go to Menu** key (OPEN APPLE "m").

LOAD   (L or 3)

This will erase the document currently stored in memory
and load in the specified document from disk. Tab
settings are loaded along with the document. A full blown
pathname may be used if you wish to load the document from
a different directory than the one given by PREFIX. You
will be warned if any changes have been made to your
current document which have not been stored.

Normal Word Juggler documents contain special control
codes for things such as the end of paragraph mark, the
Bold mark, and the commands like **Center, Left Margin,** etc.
It is also possible to LOAD a normal ProDOS text file. To
do this, just precede the file name with an asterisk (*).

You can get a CATALOG from inside LOAD by typing a
question mark followed by the directory name (e.g. ".D2").
If you want a catalog of the default directory just type
"?" and press RETURN. The free block count will not be
displayed. Only the first 75 entries in the directory are
shown.

NEW   (N or 1)

This will delete all text currently in memory and then go
to the text entry mode. You will be put into insert mode,
all tabs will be cleared and the document name will be
left undefined. You will be warned if the document you
are about to erase has any changes in it that have not
been stored.

PREFIX   (P or 7)

This allows you to select the default drive (or directory)
that will be accessed whenever you do a disk operation
such as LOAD, STORE or DELETE. The prefix is initially
set to ".D1", the root directory of drive 1. You can set
it to ".D2" to make drive 2 the default, or whatever. It
can also be set to a volume name or a subdirectory
pathname. Subdirectories are discussed in the Glossary
and also in the Utilities section under Create
Subdirectory.

You may also set the prefix to a particular slot by
entering ".S" followed by the slot number. Thus, ".S5"
will set the prefix to slot 5, drive 1. ".S52" will set
the prefix to slot 5, drive 2.

QUIT (Q or 9)

This will exit from Word Juggler and prepare the computer
for use by another program. You should always use this
option to exit Word Juggler. If the document currently in
memory has any changes in it which have not been stored on
disk, you will be warned and given a chance to abort the
QUIT.

STORE (S or 4)

This will store the document in memory onto the disk. Tab
settings are stored along with the document. A full blown
pathname may be used if you wish to store the document in
a different directory than the one given by PREFIX.

Word Juggler documents normally contain special control
codes for things such as the end of paragraph mark, the
Bold mark, and commands like **Center, Left Margin**, etc. It
is also possible to use STORE to create a normal ProDOS
text file. To do this you just precede the name of the
file with an asterisk (*). This will allow you to create
a simple text file that is easily manipulated by a BASIC
program running under ProDOS (the format of such a file is
described in Appendix B).

You can get a CATALOG from inside STORE by typing a
question mark followed by the directory name (e.g. ".D2").
If you want a catalog of the default directory just type
"?" and press RETURN. The free block count will not be
displayed. Only the first 75 entries in the directory are
shown.

Editing Keys

The functions of the editing keys not labeled on special keycaps are defined on the quick reference card. The Help facility also provides a description of many of these keys.

Cursor Movement Keys

Down arrow or **CONTROL "X"**

This key moves the cursor down one line (nearer the bottom of the text). It will not let the cursor move past the end of the text. If the result of the move would put the cursor past the end of that line, it is readjusted to point to the last character in the line. When displaying a document, it causes the document to be advanced by one line.

OPEN APPLE down arrow

This key puts the cursor in the upper left corner of the text area and then displays the next 23 lines of text. If there are fewer than 23 lines after the last line on the screen, the cursor moves just past the last line of the text.

OPEN APPLE "X"

This key positions the cursor just past the end of text. The last line is positioned roughly in the center of the screen.

OPEN APPLE CONTROL "X"

This key moves the cursor down one line. The cursor will not be readjusted to the end of that line as may be done by down arrow.

Left arrow or **CONTROL "S"**

This key moves the cursor left one position. If that movement would move the cursor past the start of the line, the cursor moves up one line and to the last character of that line. During document display, it causes the document to scroll horizontally left by one.

OPEN APPLE left arrow

This key moves the cursor to the start of the previous word.

OPEN APPLE "S"

This key moves the cursor to the far left edge of the screen.

OPEN APPLE CONTROL "S"

This key moves the cursor left one position. If that movement would go off the left edge of the screen, the cursor moves up one line and to column 80. However, if that line is 80 characters long, the cursor moves to column 81.

Right arrow or CONTROL "D"

This key moves the cursor right one position. If that movement would move the cursor past the end of the line, the cursor moves down one line and to the far left. However, if the next line is empty or contains a command and the current line does not end with an end of line marker, the cursor may go past the last character of the line. During document display, it causes the document to scroll horizontally right by one.

OPEN APPLE right arrow

This key moves the cursor to the start of the next word.

OPEN APPLE "D"

This key moves the cursor to the end of the current line. If the last character in the line is an end of line marker, the cursor will come to rest over it. Otherwise the cursor will be positioned just beyond the end of the line.

OPEN APPLE CONTROL "D"

This key moves the cursor right one position. If that movement would go off the right edge of the screen, the cursor moves down one line and to the far left. However, if the length of the current line is 80, the cursor moves to column 81.

Up arrow or CONTROL "E"

This key moves the cursor up one line (nearer to the start of the text). If the result of the move would put the cursor past the end of that line, it will be readjusted to point to the last character in the line.

OPEN APPLE up arrow

This key puts the cursor in the upper left corner of the text area and then displays the previous 23 lines of text (15 if the key definitions are displayed). If there are fewer than 23 (15) lines above the top line on the screen, the cursor moves to the start of the text.

OPEN APPLE "E"

This key moves the cursor to the start of the text.

OPEN APPLE CONTROL "E"

This key moves the cursor up one line. The cursor will not be readjusted to the end of that line as may be done by up arrow.

Other Editing Keys

RETURN

This key puts an end of line marker in the text.

OPEN APPLE RETURN

This key is virtually the same as down arrow followed by a OPEN APPLE "S". It goes to the start of the next line.

OPEN APPLE Space

This key goes to the next position to the right of the current position at which a tab is set. Unlike TAB, however, it inserts spaces as it goes.

TAB

This key goes to the next position to the right of the current position at which a tab is set.

OPEN APPLE TAB

This key sets a tab at the current position if one doesn't already exist there. If a tab is already set, it is cleared.

Labeled Editing Keys

Many editing keys are labeled on the keycap itself. The editing functions are activated by holding OPEN APPLE and then depressing one of the specially labeled keycaps. If a key has two functions, the other function is activated by pressing OPEN APPLE and SHIFT and then the appropriate key.

If a key has two labels, the leftmost (lower on the Apple //e) function is accessed with just OPEN APPLE. the rightmost (upper) function is accessed with both OPEN APPLE and SHIFT.

Some keys have two functions but only a single label. This is done only in the case that the SHIFTed function is just a slight variation of the unSHIFTed function.

Auto Change   (OPEN APPLE "-")

   This key is used to change one string to another. It asks for the string to find and a replacement string. The search starts from the character at the cursor. This key is the same as the **Change** key except that it assumes that you want all changes made. All strings which match the search string are replaced with the replacement string. Once the search and replacement has begun it cannot be stopped.

   Note that if you are using the technique of searching for something with blanks around it (as mentioned in **Find**) the replacement should probably have blanks around it too. Note also that you may use the SOLID APPLE key to enter printout enhancements into both the search and replace strings. It is not possible to search for strings containing end of line markers (RETURNs) or commands (e.g. **Center**).

↑ **Auto Change**   (OPEN APPLE SHIFT "-")

   This key is the same as the **Auto Change** key except that it begins at the start of the text.

Block Delete   (OPEN APPLE "7")

   This key has you mark the start and end of the block you wish to delete.

Block Load   (OPEN APPLE "5")

This key asks for the name of a document and then inserts the text of the document at the current cursor position. If there are any tab settings in the document file, they are ignored.

Normal Word Juggler documents contain special control codes for things such as the end of paragraph mark, the Bold mark, and the commands like **Center, Left Margin**, etc. It is possible to use **Block Load** on a normal ProDOS text file. To do this, just precede the file name with an asterisk (*).

It is possible to "Block Load" text files in DOS 3.3 or Apple Pascal format. See the Utilities section for details.

Block Store   (OPEN APPLE SHIFT "5")

This key has you mark the first character or command in a block of text you wish to store. Then you mark the last character or command in the block you wish to store. Then you specify the pathname to be used for the block. No tab settings are stored with the block. If there is already a document by that name, you will be asked if you wish to replace it.

Word Juggler documents contain special control codes for things such as the end of paragraph mark, the Bold mark, and the commands such as **Center, Left Margin**, etc. It is possible to do a **Block Store** that creates a normal ProDOS text file. This will allow you to create a simple text file that is easily manipulated by a BASIC program running under ProDOS (see Appendix B for a description of the contents of such a file). To do this you just precede the name of the file with an asterisk (*).

Block Store & Delete   (OPEN APPLE "6")

This key does the same thing as **Block Store** except that after the store has been successfully completed, the block is deleted.

Change   (OPEN APPLE "0")

This key is used to change one string to another. It asks for the string to find and a replacement string. The search starts from the character at the cursor. Every

time a match is found you are given the option of either
replacing the occurrence or just continuing (press Space
to continue and RETURN to replace). ESCAPE may be used to
abort this command any time it is waiting for a response.

Note that if you are using the technique of searching for
something with blanks around it (as mentioned in **Find**) the
replacement should probably have blanks around it too.
Note also that you may use the SOLID APPLE key to enter
printout enhancements into both the search and replace
strings. It is not possible to search for strings
containing end of line markers (RETURNs) or commands (e.g.
Center).

↑ Change   (OPEN APPLE SHIFT "O")

This key is the same as the **Change** key above except that
it begins at the start of the text.

Copy   (OPEN APPLE "4")

This key has you position the cursor to the first
character or command in a block of text you wish to copy
and press Space. You then move the cursor to the end of
the block to copy. The section you are going to copy will
be highlighted in inverse video. You press Space to mark
the end of the block and the inverse video will disappear.
Finally you position the cursor to the place you wish to
insert a copy of the block and press Space again.

Delete Character   (OPEN APPLE "q")

This key deletes the character under the cursor. It has
no effect on a command line.

Delete Line   (OPEN APPLE "1")

This key deletes all characters from the cursor to the end
of the line the cursor is on, then text from following
lines is packed in to fill the void. If the cursor is at
the left edge of the screen, it will delete the command
(e.g. **Center**) on that line.

Delete Paragraph   (OPEN APPLE "2")

This key deletes all characters from the position of the
cursor up to the first end of line marker (not including
the end of line marker) or up to the first command (e.g.
Center).

Delete Previous Character   (DELETE)

This key deletes character to the left of the cursor. It does almost the same thing as left arrow followed by a **Delete Character.**

Delete Word   (OPEN APPLE "w")

This key deletes the word the cursor is on. The cursor must be over some non-blank sequence of characters. A word is defined as <u>any</u> non-blank sequence of characters including commas, periods, parenthesis, etc. and ending with a blank or an end of line marker. **Delete Word** will delete the blank following the word if there is one. Note that if you follow your periods, exclamation marks, and question marks with two spaces, pressing and holding down this key will delete to the end of a sentence.

Display   (OPEN APPLE "o")

This key displays the document on the screen 23 lines at a time as it will appear when printed. Pressing the space bar shows the next 23 lines. A horizontal line indicates where a new page begins. The down arrow key allows you to go through the document one line at a time, and the left and right arrow keys may be used to horizontally scroll documents that are wider than the screen. Any characters that are underlined, bold or are used as superscripts or subscripts are shown in inverse video. Justification is done by inserting spaces (as opposed to the microspaces used oh microspacing printers).

Find   (OPEN APPLE "9")

This key is used to find a character string. It asks for the string to locate and then begins its search with the character at the cursor. When the string is found, the cursor comes to rest on the first character of the string. If you merely press RETURN when "Find what?" appears, Word Juggler will find the next occurrence of the string it found last time.

An exact match is required, thus if you tell Word Juggler to find "her", it will not find "Her" or "HER". It will, however, find "hers", "here", or "there" since they all contain "her".

To avoid this problem, you may wish to use " her ". However, this will not find "her" at the end of a sentence

since then it would need to match " her.". You may use
the SOLID APPLE key to enter printout enhancements into
the string. It is not possible to search for end of line
markers (RETURNs) or commands (e.g. **Center**).

↑ **Find**   (OPEN APPLE SHIFT "9")

This key is used to find a character string. It asks for
the string to locate and then begins its search at the
start of text.

If you merely press RETURN when "Find what?" appears,
Word Juggler will find the next occurrence of the string
it found last time.

Go to Menu   (OPEN APPLE "m")

This key goes to the Word Juggler menu. This menu allows
files to be loaded and stored, allows a catalog to be
obtained, allows the system to be configured and a variety
of other functions. See the section on the menu for a
complete description of the functions available.

Help   (OPEN APPLE "?" or "/"))

This loads in the Help program from the Word Juggler disk.
A menu of topics is presented. You may get information on
a topic by typing its number and pressing RETURN.

Insert   (OPEN APPLE "b")

This key turns on insert mode (turns off replace mode).
Insert mode is distinguished by a cursor which alternates
between the character the cursor is over and an inverse
plus sign. In insert mode each character or command is
inserted into the text between the character preceding the
cursor and the cursor.

Move   (OPEN APPLE SHIFT "4")

This key has you position the cursor to the first
character or command in a block of text you wish to move
and press Space. You then move the cursor to the end of
the block to copy. The section you are going to move will
be highlighted in inverse video. You press Space to mark
the end of the block. The section you are moving will be
deleted. Then you position the cursor to the place you
wish to insert the block and press Space again.

Print   (OPEN APPLE "p")

This key prints the document on the printer.

Replace   (OPEN APPLE SHIFT "B")

This key turns on replace mode (turns off insert mode).
Replace mode is distinguished by a cursor which alternates
between the character it is over and the inverse of that
character. In replace mode any character entered replaces
the character the cursor is over. If a command is
entered, it will replace another command. Characters
entered while the cursor is over a command are inserted.
Commands entered while the cursor is over a line of text
are also inserted.

Special Display   (OPEN APPLE SHIFT "O")

This key behaves the same as the **Display** key, except that
it asks for a page number to start the display with. In
this context page number does not refer to the page
numbers that appear on the output, but rather to the
sequential number of the page.

Special Print   (OPEN APPLE SHIFT "P")

This key prints the document on the printer. It allows
you to specify the number of the first and last pages to
be printed, and the number of copies to print. In this
context page number does not refer to the page numbers
that appear on the output, but rather to the sequential
number of the page.

If you just press RETURN for "First page to print?", "1"
will be used. If you just press RETURN for "Last page to
print?", it will print to the end of the document. If you
just press RETURN for "Number of copies?", only one copy
will be printed.

Tabs   (OPEN APPLE "v")

This key turns on and off a one line display which shows
where your tabs are set. It also affects the number of
lines skipped by OPEN APPLE "E" and OPEN APPLE "X".

Typing Mode

Typing mode is used to disconnect the keyboard from the word processor and type directly on the printer. Typing mode functions can only be accessed from the text entry mode.

Typewriter   (OPEN APPLE "t")

This will prompt you with "Typewriter:". You may then type characters and use the arrow keys to move around on the paper. (The DELETE key works the same as the left arrow.) On some printers, the up arrow will not work. On other printers, neither the up arrow nor the left arrow will work. You may set and clear tabs using OPEN APPLE TAB. You move to a tab stop by pressing the TAB key. These tabs are independent of the tabs that are set for your document. The left margin is set at zero. When you are through, press ESCAPE to go back to editing your document.

Transmit Line   (OPEN APPLE "r")

If the cursor is on a line of text, the contents of the line from the cursor to the end of line will be printed. If the line contains any variables, you will be asked for their values. The left margin used will be that specified by the **Typing Mode Left Margin** function (see below).

This is particularly useful for extracting addresses from letter headings and printing them on envelopes. You just position the cursor to the start of the address, put an envelope in the printer and press **Transmit Line** once for each line of the address. If you are using a Qume or similar printer, the pitch used will be that specified by EDIT CONFIGURATION. The left margin is determined by the **Typing Mode Left Margin** command. The default **Typing Mode Left Margin** is about right for printing addresses on envelopes. If the line transmitted turns on bold, underlining, or super/subscripting, they will be turned off after the transmit has completed (i.e. the next line transmitted will not print as bold or whatever unless it explicitly turns it on).

Type   (OPEN APPLE SHIFT "T")

This will prompt you with "Type?". You may type any line up to 74 characters long (34 on a 40 column display) and send it to the printer. Then Word Juggler will prompt you

with "Type?" again. You may type as many lines as you
like. When you have nothing more to type, press ESCAPE.
If you are using a Qume or similar printer, the pitch used
will be that given in EDIT CONFIGURATION. You may adjust
the left margin using **Typing Mode Left Margin.**

Typing Mode Left Margin (OPEN APPLE "y")

This key will prompt you for the left margin to be used in
typing mode. If you have never used this function, the
margin will be set to either 40, 48 or 60 depending on the
pitch setting in your EDIT CONFIGURATION. This is about
right for printing addresses on envelopes. This margin is
not used by the **Typewriter** function.

Printout Enhancements

Word Juggler has the capability to generate printout with
underlined or bold text as well as the ability to generate
superscripts and subscripts. These enhancements may be used
in any combination desired. All these enhancements display
a unique symbol to indicate whether they are being turned on
or off at a given point. Each enhancement control is
accessed by holding down the SOLID APPLE key, then pressing
the key for the desired function. These keys are:

Key	Function	Displayed Symbol
u	Underline on	Inverse lowercase u
U	Underline off	Inverse capital U
b	Bold on	Inverse lowercase b
B	Bold off	Inverse capital B
↑	Superscript on Subscript off	Inverse up arrow (actually "^")
↓	Subscript on Superscript off	Inverse down arrow (actually "v")

If the "Space underline" parameter in the EDIT CONFIGURATION
menu is set to "No", spaces are not underlined. In this
case, you may use the underline character in place of space
if you want spaces underlined. Note, however, that this
turns the underlined text into a single word which cannot be
split up across a line.

A special note about using these functions in tables. They
take up a position on the display, but they don't take up a
position when printed. So if some rows in a table use these
functions and others don't, the rows may not line up on the
screen in text entry mode. It is best to build the table
first and get things lined up, then go back and add printout
enhancements.

Variables

Word Juggler provides a convenient method for doing fill-in-the-blank operations in your document. Any place you want to insert some information that changes, you may use a variable. When Word Juggler sees this variable, it will ask for the text to substitute for it. Further, if the same variable occurs later in the document, it will substitute the same thing you entered earlier. You may have up to 127 distinct variables. If you are printing more than one copy of a document, you will be asked only once for the variables and the same text will be used on all copies (you can ask for new text for a variable on each copy, see the **Let** command for details).

To enter a variable, hold SOLID APPLE and press "<", then type the variable name, then hold SOLID APPLE and press ">". The variable will appear as a name enclosed by an inverse "<" and an inverse ">". A variable name may be up to 78 characters in length and may not include blanks, printout enhancement characters or end of line markers. Lowercase and uppercase letters are interchangeable, so the variables "Name", "NAME", and "name" are the same.

A variable named PAGE is automatically defined by Word Juggler to contain the current page number (PAGE does not count as one of your 127 variables). PAGE is initially set to "1" and is incremented by one at the end of every page. The use of the PAGE variable allows for numbering of pages (see the **Text** command). Page numbers which start at something other than "1", or which are more complex than just a simple number can also be handled. See the **Text** and **Let** commands for more details.

NOTE: For every variable you use with a distinct name, there must be at least two lines of free memory. Also there must be two lines of memory for the PAGE variable whether you use it or not. During printout (or display) this memory is temporarily used by Word Juggler. For example, if you are using the variables NAME, ADDRESS and JUNK, the "Free" count in the status line must read at least 8 (2 times 3 for the variables plus 2 more for PAGE).

Predefined Variables

There are ten predefined variables that give you access to the date and time of day from your Thunderclock, if you have one. They are entered just like normal variables. Unlike other variables, they do not use up memory (if you have a working Thunderclock).

Variable Name	Description
$Date	Gives date in the form MM/DD/YY (e.g. 01/31/84)
$Year	Gives a 4 digit year (e.g. 1984)
$Yr	Gives a 2 digit year (e.g. 84)
$Month	Gives the month name (e.g. January)
$Mon	Gives a 3 letter all caps month abbreviation (e.g. JAN)
$Month#	Gives the month number (1 to 12)
$Day	Gives the day name (e.g. Monday)
$Day#	Gives the day of the month (1 to 31)
$Time	Gives the time (e.g. 2:30 AM or 4:45 PM)
$Time24	Gives time on a 24 hour clock (e.g. 02:30 or 16:45)

Printout Control Commands

These commands are accessed from text entry mode by pressing
ESCAPE followed by the appropriate command key. They take
up an entire line. If you are in the middle of a line of
text, entering a command will break the line into two parts
at the cursor. During printout there is an implied end of
line marker before these commands if one is not present on
the text line preceding the command.

10 Pitch   (ESCAPE "4")

   The **10 Pitch** command is only necessary when using a
   microspacing printer such as the Apple LQP, Qume or
   certain other printers. It specifies that the print wheel
   being used is designed to produce 10 characters per inch.

12 Pitch   (ESCAPE "$")

   The **12 Pitch** command is only necessary when using a
   microspacing printer such as the Apple LQP, Qume or
   certain other printers. It specifies that the print wheel
   being used is designed to produce 12 characters per inch.

15 Pitch   (ESCAPE "f")

   The **15 Pitch** command is only necessary when using a
   microspacing printer such as the Apple LQP, Qume or
   certain other printers. It specifies that the print wheel
   being used is designed to produce 15 characters per inch.

   15 Pitch is supported by certain dot matrix printers which
   can't actually print 15 characters per inch. On these
   printers, the most condensed form of print is used.

Center   (ESCAPE "1")

   The **Center** command specifies that text will be printed so
   each line is centered between the left margin and the
   right margin. **Center** may be subsequently overridden by
   Ragged Right, Ragged Left or **Justify.**

Comment   (ESCAPE "c")

   The **Comment** command allows you to insert non-printing
   comments into the text. The line following the **Comment** is
   completely ignored by Word Juggler.

Double Space (ESCAPE "&")

Double Space causes all subsequent text to have a single blank line placed between each line of text.

Else (ESCAPE "e")

See **If**.

End If (ESCAPE "+")

See **If**.

If (ESCAPE "=")

The **If** command allows you to conditionally print certain portions of a document. The line following the **If** must contain an expression defining when to print the text following the **If** and preceding the **End If**. If an **Else** occurs between the **If** and **End If**, the text between the **If** and **Else** will be printed if the expression is true, and the text between the **Else** and **End If** will be printed if the expression is false. **If**s may be nested up to 127 deep.

Expressions consist of comparisons of variables to literals and variables to variables using the following comparison operators:

$$ < \quad > \quad <= \quad >= \quad = \quad <> $$

Literals are defined as any string of characters enclosed in single (') or double (") quote marks. A string enclosed in double quotes may not contain a double quote and a string enclosed in single quotes may not contain a single quote. The items being compared are strings, not numbers. Thus, numbers will not be accurately compared unless they both have the same number of digits before and after the decimal point (if there is one).

These comparisons may be compounded using the binary operators "&" (AND) and "|" (OR). "-" is a unary NOT operator. Order of evaluation is strictly left to right unless modified by the use of parenthesis.

Indent nn (ESCAPE "6")

The **Indent** command is used to specify the amount of indentation that is to occur on all lines **except** the first

line of a paragraph. The default setting for **Indent** is zero. You cannot indent so much that the width reduced by the indent parameter would be less than 10. **Indent** will accept any value from 0 to 127.

Insert Document   (ESCAPE "%")

The **Insert Document** command inserts a sequence of text and commands at the point immediately following the **Insert Document**. The insertion is performed when the document is printed or displayed. The document in memory is not actually altered by **Insert Document**.

The line following the **Insert Document** must be the name of the document to be inserted followed by an end of line marker. Note that an inserted document starts out with the parameter settings (such as **Left Margin**, and **Width**) currently defined for the main document, not the normal default settings. Also, any changes the inserted document makes in any of these settings are transmitted back to the main document when the end of the inserted document is reached.

You may insert as many documents as you wish, anywhere you wish, but an inserted document may not itself contain an **Insert Document** command unless that command is the last thing in the inserted document. If you wish to insert a document from a specific drive, the name should be preceded by a ".D1/", ".D2/", or whatever.

Word Juggler documents normally contain special control codes for things such as the end of paragraph mark, the Bold mark, and the commands such as **Center**, **Left Margin**, etc. It is possible to insert a normal ProDOS text file into your document during printout. To do this, just precede the file name with an asterisk (*).

Justify   (ESCAPE "2")

The **Justify** command specifies that text will be printed so that both the left and right margins line up (if possible). This is done by inserting spaces (or small portions of spaces on microspacing printers) at appropriate points. **Justify** may be subsequently overridden by **Ragged Right**, **Ragged Left** or **Center**.

Left Margin nn   (ESCAPE "(")

The **Left Margin** command is used to set the size of the
left margin. If **Left Margin** is set to zero, text will be
printed starting at the far left of the page, if it is set
to one, one blank will precede the text, and so on. **Left
Margin** can have any value from 0 to 127.

Length nn   (ESCAPE "0")

The **Length** command is used to tell how many lines are
available for printing text. The **Length** setting cannot be
such that text would have to be printed past the end of
the page (i.e. an error will occur if **Top Margin** plus
Length is greater than **Page Length**). **Length** can have any
value from 1 to 127.

Let   (ESCAPE "3")

The **Let** command allows you to perform a variety of fun
functions. It may be used to define or redefine the
values of variables, including the PAGE variable. You may
not change the value of the predefined date and time
variables using **Let**, however. The line following the **Let**
describes the variable to be assigned as well as what
value is to be assigned. The line should start with the
variable to be assigned, then, if you merely wish to enter
a new value from the keyboard, follow that with a "?" then
a RETURN. If you wish to set the variable to some
particular value, follow the variable with an "=" then the
value you want the variable to have then a RETURN. Note
that the new value may itself contain variables. If these
variables are defined, their current value will be used.
If they are undefined, you will be asked for their values.

The PAGE variable is somewhat special. Just before a new
page is started the value of page is incremented.
Actually, Word Juggler looks at PAGE for the rightmost
sequence of digits. This sequence is incremented. If the
number of digits stays the same, that is all that is done.
If the number of digits increases (e.g. 999+1=1000), then
one of the following is done: If there is a space to the
left of the digits, the overflow digit goes there. If
there is a space to the right of the digits, the space is
removed from there and the overflow digit is inserted in
front of the digit sequence. If there is no space on
either side, the overflow digit is inserted in front of
the digit sequence.

As mentioned in the **Variables** section, it is possible to use the **Let** command to cause variable values to be requested for each copy of a document when you request multiple copies via **Special Print Document**. To do this you put a **Let** command for each variable at the start of your document. The line following the **Let** should just be a variable name followed by a "?" and a RETURN. This has an additional advantage over just putting the variables in the document wherever they occur because it asks for all the variable values at the beginning and not when they are first encountered.

It may also be desirable to have all the variable values requested at the beginning of the document, but not have new values requested for each copy. To do this, put a **Let** command at the beginning of the document for each variable, and just assign the variable to itself.

One last caution about the **Let** command. If you intend to print multiple copies of a document using **Special Print Document** and have all of them use the same variable values, do not use **Let** to change the value of a variable that has been input from the keyboard or you will get unexpected results.

Need nn   (ESCAPE "_")

The **Need** command is used primarily to keep titles from being put at the very bottom of a page. **Need** checks that there are at least the indicated number of lines left on the current page. If not, a new page is started. **Need** can have any value from 1 to 127.

New Page   (ESCAPE "^")

The **New Page** command ejects the current page if there is any text printed on it.

Page Length nn   (ESCAPE "8")

The **Page Length** command is used to specify the total number of lines on a page. A value of 66 for **Page Length** corresponds to an 11 inch page (assuming 6 lines/inch). **Page Length** can have any value from 1 to 127.

Pause   (ESCAPE "*")

The **Pause** command tells the program to pause at the end of every page when printing a document so that single sheets

may be fed. Once **Pause** has been specified the remainder
of the document will be printed with pauses at every page
break.

Printer Control   (ESCAPE "p")

The **Printer Control** command allows you to send an
arbitrary sequence of characters to the printer. It is
intended to allow you to send special escape or control
sequences to the printer. The line following the **Printer
Control** contains the characters to be sent. To send
control characters, type "$" followed by the 2-digit
hexadecimal code for the character (e.g. escape is "$1B",
Control P is "$10", etc.). If you want to send a dollar
sign, type "$$".

Note that you are forced to send control sequences at the
end of a paragraph. Thus you cannot print a single word
in a sentence in red, or double wide, or whatever. Be
careful not to send sequences which affect something
Word Juggler is attempting to control as this may produce
anomalous results. For example, don't change line spacing
in the middle of a page. You may change line spacing at
the start of a page, however, if you adjust the **Page
Length**. For example, using **Printer Control** you may set
line spacing to 8 lines/inch on a Apple LQP, Qume or
similar printer by sending "$1B$1E$07" and then setting
Page Length to 88 for a normal 11 inch page.

The control commands you will need to use depend on which
printer you are using. Consult your printer manual for
details.

Control I ($09) is used as a special escape sequence lead-
in for many Apple // peripheral cards. Unless you have
used EDIT CONFIGURATION to set the "Printer card"
parameter to either "Dumpling" or "Other", Word Juggler
will convert all control I's in the printer control string
into a 5 character sequence (CONTROL I, Y, I, Y, I). This
allows a control I to be sent to the printer without the
peripheral card's interference. If you need to use
control I to communicate directly with your peripheral
card, use a $89. This sets the high bit on the control I.
Word Juggler will not interfere with such a character and
most cards will accept it as a control I.

Ragged Left (ESCAPE "r")

The **Ragged Left** command specifies that text will be
printed so the right margin lines up, but the left margin
will be allowed to wander. **Ragged Left** may be
subsequently overridden by **Ragged Right, Center** or
Justify.

Ragged Right (ESCAPE "@")

The **Ragged Right** command specifies that text will be
printed so the left margin lines up, but the right margin
will be allowed to wander. **Ragged Right** may be
subsequently overridden by **Ragged Left, Center** or **Justify.**
Ragged Right is the default mode.

Replace 'c' with 'c' (ESCAPE "5")

The **Replace** command allows any character to be printed as
any other character. Its primary function is to prevent a
group of words from being split up across a line. For
example, the text "Apple //e" is, in a sense, all one
word. But if you use a space to separate "Apple" and
"//e", it is possible that "Apple" will occur at the end
of one line, and "//e" at the beginning of the next. So,
the solution is to put in a **Replace** command like:

Replace '@' with ' '

Then, rather than typing "Apple //e" you type "Apple@//e".
The program will treat this as one word, so it cannot be
broken across a line, but it will print the "@" as a
space. Of course, if you have any other "@"s in your
document after the **Replace**, they will be printed as spaces
too, so you should either pick some unused character, or
turn off the **Replace**. Turning off a **Replace** is
accomplished by replacing the character with itself. A
reasonable choice to use as a space replacement is the
tilde (the tilde is the little squiggle on the key next to
CAPS LOCK). You may also wish to have a replacement for
the hyphen key. Word Juggler will occasionally break
words up at a hyphen. Of course phone numbers (237-4516)
look not unlike hyphenated words. Replacing the hyphen
with a "\" will solve this problem.

Single Space (ESCAPE "7")

Single Space causes all subsequent text to be single
spaced (no blank lines between lines of text).

Skip nn   (ESCAPE "_")

The **Skip** command is used primarily to leave a contiguous
blank space for figures, diagrams, etc. If the indicated
number of blank lines will not fit on the current page, a
new page will be started before the blank lines are
skipped. **Skip** can have any value from 1 to 127.

Text at Line nn, **Column** nn   (ESCAPE "#")
Text at Line nn, **Left**
Text at Line nn, **Right**
Text at Line nn, **Center**
Text at Line nn, **Alternate**

The **Text** command is used to put a line of text (possibly
including page numbers, dates, times, etc.) into either
the top or bottom margin. The line number tells on which
line on the page the text is to occur and may range from 1
to 127. The column number tells in which column the text
should be printed (relative to the left edge of the page,
not the left margin). The column number may range from 1
to 254.

It is also possible to have the text appear either at the
left margin, at the right margin, centered, or alternating
between the left and right margins. If you specify
"Alternate", the text will appear at the left margin on
even numbered pages and at the right margin on odd
numbered pages.

The line immediately following the **Text** command is the
text that will be used (the line should end with an end of
line marker). There may be up to ten such text lines
active at any one time, but each must refer to a different
line in the top or bottom margin. Performing a subsequent
Text command with the same line number overrides the
previous **Text** command for that line. To deactivate a text
line just enter a **Text** command using that line number and
follow it with a blank line (a line containing only an end
of line marker).

Note that you can even do bold printing, underlining, etc.
in **Text**.

Top Margin nn   (ESCAPE "9")

The **Top Margin** command is used set the size of the top
margin. A value of zero will cause text to be printed on
the very first line of the page, one will leave one blank

line in front of the text, and so on. **Top Margin** can have
any value from 0 to 127.

Triple Space   (ESCAPE "t")

Triple Space causes all subsequent text to have a two
blank lines placed between each line of text.

Width nn   (ESCAPE ")")

The **Width** command is used to specify the number of
characters wide the text can be. **Width** can have any value
from 10 to 254.

Print Form

The **Print Form** key (SOLID APPLE "2") provides the ability to
generate form letters from data stored in a Word Juggler
document or in files created by Quick File or PFS. A fairly
detailed discussion of its operation is given in Lesson 4 of
the Word Juggler tutorial.

When **Print Form** is pressed, the Word Juggler diskette must
be in drive 1. The **Print Form** program is loaded into
memory. It remains resident until one of the following is
performed: another program is used (such as **Utilities** or
Lexicheck), or the **Copy, Move, Display** or **Special Display**
key is used.

When used with Quick File, **Print Form** operates in a straight
forward manner. Quick File category names which match
variables in the Word Juggler document are replaced by the
appropriate category values for each letter produced. Note,
however, that Quick File allows spaces in category names
whereas Word Juggler does not allow spaces in variable
names. Any spaces in the Quick File category name (not the
value) are converted into a dot by **Print Form**.

There must be two free lines of memory (as shown in the
status line) for every category in the Quick File file.
This is in addition to any memory that may be required by
other variables (such as PAGE) in the document.

When used which PFS, **Print Form** uses PFS field titles as the
variable names. The rules for generating a PFS title are
fairly complex. See the section in Lesson 4 on PFS for
details.

It is not realistic for **Print Form** to use two lines of
memory for every PFS field since there can be hundreds of
them. So, prior to printing form letters, **Print Form** scans
the document in memory to determine which fields from PFS
are used. This has an interesting side effect if you are
using **Insert Document** in your form letter. Variables in the
inserted document which are intended to come from the PFS
file, but which are not also in the main document, do not
actually come from the PFS file. If you should get into
this situation, you must make sure that all variables you
wish to use are in the main document.

Utilities

The Word Juggler utilities program is accessed by a single key (SOLID APPLE "1"). This key is referred to as the **Utilities** key. It provides the following special functions:

1. Insert DOS 3.3 Text File.
2. Insert Pascal Text File.
3. Set Date and Time.
4. Create Subdirectory.
5. Install User Printer Filter.
6. Recreate Parameters File.
7. Define Default Prefix.
8. Define External Procedure Path.
9. Change Sheet Feed Setting.
10. Save Auxiliary Dictionary Path.

When **Utilities** is pressed, the Word Juggler diskette must be in drive 1. The **Utilities** program is loaded into memory. It remains resident until one of the following is performed: another program is used (such as **Print Form** or Lexicheck), or the **Copy, Move, Display** or **Special Display** key is used.

Insert DOS 3.3 Text File

This function allows text files stored on a DOS 3.3 format diskette to be inserted into Word Juggler documents. VisiCalc can create such a document (the tutorial gives an example).

Prior to pressing the **Utilities** key, the cursor should be positioned at the point where insertion is desired. You then use the **Utilities** key and select function 1. You will be asked for the file name of the DOS 3.3 text file. The DOS 3.3 diskette must be put in the boot drive (probably slot 6, drive 1). Entering a "?" will cause a catalog of the diskette to be displayed. Once the name of the file has been entered, it is inserted into the current Word Juggler document.

Insert Pascal Text File

This function allows a text file stored on a Pascal format diskette to be inserted into a Word Juggler document. Prior to pressing the **Utilities** key, the cursor should be positioned at the desired insertion point. You then use the

Utilities key and select function 2. You will be asked for the name of the Pascal text file. The Pascal diskette must be put in the boot drive (probably slot 6, drive 1). Entering a "?" will cause a catalog of the diskette to be displayed. Once the name of the file has been entered, it is inserted into the current Word Juggler document.

This option will also permit a Pascal text file stored on a SOS or ProDOS format disk to be loaded.

Set Date and Time

This function allows you to set the date and time on your Thunderclock. If you do not have a Thunderclock, you may still set the date and time, but they will not change.

The date is entered in the form MM/DD/YY. Thus, 6/7/83 is June 7, 1983.

The time may be entered either in 12 or 24 hour form. In 12 hour form, you enter something like "12:23 AM" or "11:45 PM". The "M" is not required, and spaces don't count. Remember that 12:00 PM is noon and 12:00 AM is midnight. In 24 hour form, you enter something like 0:23 or 23:45. The zero hour (0:00) is midnight, 12:00 is noon, 13:00 is 1:00 PM and 23:00 is 11:00 PM.

Create Subdirectory

Word Juggler uses the ProDOS operating system. This operating system is a whittled down version of the SOS operating system used on the Apple ///. Both operating systems give you the capability to have directories of files in addition to the root directory that is created when you format a diskette.

When you initially format a diskette, the root directory is created which can hold up to 51 files. If your files are fairly large, you will run out of room on the diskette before running out of the 51 entries. However, if you have short files, you may run out of directory entries before running out of disk space.

The Create Subdirectory option allows you to create a file which can in turn be used to store other files. This allows you to exceed the 51 file limit and provides a convenient way to categorize your documents.

For example, suppose you create a subdirectory called
".D1/CONTRACTS" on one of your diskettes and also one called
".D1/LETTERS". Whenever you write letters you can store
them in the LETTERS subdirectory. If your letter is to Mary
Smith, you might store it as ".D1/LETTERS/MARY.SMITH". You
might store a contract with Fred Smith as
".D1/CONTRACTS/FRED.SMITH".

Now if you request a catalog of ".D1", only "CONTRACTS" and
"LETTERS" will be listed. If you get a catalog of
".D1/LETTERS", "MARY.SMITH" will be listed. You can
retrieve the letter using the name ".D1/LETTERS/MARY.SMITH".
Rather verbose.

The PREFIX option in the main Word Juggler menu comes to the
rescue. If you are going to be working with the documents
in the LETTERS subdirectory for awhile, you can set the
default prefix to ".D1/LETTERS" rather than just ".D1". Now
you can load your letters using just their file names. The
"?" option in LOAD and STORE will also refer to this
directory. And pressing just RETURN in the CATALOG option
will produce a catalog of the LETTERS subdirectory.

When you are ready to work on contracts, you use PREFIX to
set the default prefix to ".D1/CONTRACTS".

Subdirectories also have the nice property that they get
bigger as required.

Install User Printer Filter

This option allows one of the special User filters supplied
by Quark for driving various printers to be installed on
Word Juggler. A menu of the standard filters supplied on
the Word Juggler master disk is displayed. When an entry is
selected, the file containing the filter is copied into the
WJ.USER file on the Word Juggler diskette. The filter is
also loaded into memory and the "Filter" parameter in EDIT
CONFIGURATION is set to "User". The parameters file on disk
is also updated.

A special option on the install filter menu allows you to
install a filter supplied on a separate disk. The disk may
be either Apple][Pascal or ProDOS format. When this
option is selected, you are asked for the name of the file
containing the filter. The file is loaded from drive 1.
You are then instructed to install the Word Juggler disk.
This filter is then installed on that disk.

Recreate Parameters File

The Word Juggler parameters file, called WJ.PARAMS, contains all the default settings used by Word Juggler. If this file is in some way damaged or destroyed, this option allows the file to be recreated. When the file is recreated, the parameter settings currently in memory are recorded in the file. Most of these settings can be determined by using the EDIT CONFIGURATION option in the Word Juggler main menu. The only other two settings are the external procedure path setting and the default prefix. These two settings can be examined and modified using the next two options in the **Utilities** program.

Define Default Prefix

When Word Juggler is first booted the default prefix is set to ".D1". This means that when a file name is entered, the file will be assumed to be on drive 1 unless specifically overridden by entering a name such as ".D2/FRED". In some cases it may be desirable to have another default assumption.

For example, if you have two drives, and own both Word Juggler and Lexicheck you may wish to boot your Word Juggler and then install the Lexicheck diskette. If your default prefix is ".D2", you can then use drive 2 to load and store documents. No additional swapping of floppies is necessary. Of course, you can always use the PREFIX option in Word Juggler to do this, but that takes an extra step that must be remembered every time.

Define External Procedure Path

Print Form, Utilities and Lexicheck are examples of external procedures. Under normal circumstances, when you hold down SOLID APPLE and press a key which invokes an external procedure (0 thru 9), Word Juggler looks for the external procedure on the drive specified by the external procedure path. In general, this will be set to ".D1".

However, it is possible to put the external procedures on a hard disk. The usual procedure is to create a subdirectory called "WJ2E" on the hard disk. Then, all the externals are put into that subdirectory. External procedures all have names of the form "WJ.EXTx" where "x" is either a digit or "H".

The external procedure path is then set to refer to the
"WJ2E" subdirectory. For example, if the hard disk is
plugged into slot 5, the external procedure path would be
set to ".S5/WJ2E".

Change Sheet Feed Setting

The sheet feed is used in conjunction with single sheet
feeders. If sheet feed is enabled, a form feed character is
printed at the end of a page. This activates most sheet
feeders. If it is disabled, no form feed is generated.
Unless you are using a sheet feeder, the sheet feed option
should be disabled.

If you have a sheet feeder which has trays for two different
kinds of paper, Word Juggler will not normally use both
kinds. You can probably cause it to do so using a special
Printer Control command, however. Consult the manual of
your sheet feeder for information.

Save Auxiliary Dictionary Path

When this option is selected, the current auxiliary
dictionary path is recorded on disk. The next time you boot
Word Juggler, the auxiliary dictionary path will default to
this value.

An error is denoted by the flashing word ERROR in the lower left hand corner of the screen. This appendix describes the meaning of all possible error messages and, in some cases, possible remedies.

To clear an error condition, press the ESCAPE key. If you were in text entry mode, you will be returned there. If you were in one of the menu functions, pressing ESCAPE will return you to the menu.

Error Summary

At most 127 variables allowed
> You have used more than 127 variables with distinct names (not counting the "PAGE" variable).

Bad field count
> The field count at the beginning of the Word Juggler data file you are using with Print Form is incorrect. Either it is not between 1 and 99, or is is not a proper number.

Bad field definition
> The field name in a Word Juggler data file used with Print Form is bad. This is most likely caused by a field name containing spaces.

Block too large
> You have attempted to perform a Copy or Move and the block is too large. You will have to copy or move it in several smaller pieces. Try moving about 50 or 60 lines at once.

Can't format Word Juggler disk
> Word Juggler will not allow you to format the Word Juggler diskette. In fact, any diskette with the name "WORD.JUGGLER" cannot be formatted.

Device not connected

You have attempted to access a device which is not supported by ProDOS, or you have specified a peripheral card slot to which no disk drive is attached.

Directory bad

The directory you have attempted to access has been destroyed by unknown forces inimical to magnetic media. You should strongly consider using your backup in place of the damaged disk. You may wish to salvage as many good files from the disk as you can by copying them to a new disk and then copy the files that were lost from your backup.

Directory full

You have stored more files in the main directory than are allowed (only 51 are allowed). You must either store the document in a subdirectory, or format a new diskette on which to store the document.

Disk full

There is not enough space left on your disk to store the current document. You must either find a disk with enough space for the current document, or format a new diskette on which to store the document.

Disk switched

You have switched disks in the middle of an operation.

Duplicate volume

You have two disks installed with the same volume name. Remove one of them and continue.

Empty block specified

When using a Move, Copy, Block Store, Block Delete or Block Store & Delete command, the end of the block must follow the start of the block.

File locked

The file you were attempting to delete has been locked by a LOCK command from BASIC. You will not be able to delete the document unless you unlock it.

File not found
> The indicated file (or document) is not in the specified directory. If you believe that you spelled the name correctly, use the CATALOG option to check which documents are in this directory. If you were attempting to access one of the special functions such as Lexicheck or Print Form, it is possible that the proper diskette was not in the disk drive.

File type mismatch
> The file you are attempting to access is not of the right type for the operation you wish to perform. If you were attempting to load a document, this means that the file is not a document.

I/O error
> The disk has a "bad" spot on it which ProDOS cannot read. Occasionally this error occurs as a result of an improperly centered diskette. You may wish to try opening the door on the drive giving the error and closing it again (without removing the diskette). This recenters the diskette. You may then be able to successfully repeat the operation. If this helps, the diskette may have been mis-manufactured, or the hub in the disk drive may be defective. If not, transfer all the documents which don't give I/O errors onto another disk by loading them from the old disk and storing them onto a new one. If you can't even do a CATALOG (on the root directory) without getting an I/O error, the entire contents of the disk may well be lost forever. Use your backup if you have one.

Improper assignment
> You have attempted to use the Let command to change the value of a predefined time or date variable (e.g. $Time, $Date, etc.) or you have attempted to assign a value with too many characters to a variable (either 40 or 80 characters are allowed depending on the screen display). Check the indicated Let command very carefully to determine the cause.

> This error can also occur in exceedingly rare instances at the start of a new page if the Page variable contains exactly 40 or 80 characters (and the increment would increase the number of digits in the page number).

Improper command key
The key which you pressed in response to the prompt "Press a command key" did not represent a valid command. The only keys which represent valid commands are the labeled keys along the top row of the main keyboard, and "p", "c", "r", "e", "t" and "f".

Improper control string
The character following a "$" in a Printer Control string is neither a second "$" nor a valid two digit hexadecimal number.

Improper expression
The expression following an If command is not syntactically correct. Refer to Chapter 4 for details on how to structure expressions for the If command.

Improper file format
The data file being used by Print Form is defective. The most common cause of this is bad data in a PFS data file. This error also occurs if the file used with the Word Juggler data file option of Print Form has a line whose length exceeds 81 characters (41 if in 40 column display mode).

Improper 'If' structure
No corresponding End If has been found for a particular If.

Improper Indent parameter
The width of the printed text must be at least 10 characters. The Indent command has attempted to reduce the width of the printed line and then found that the resulting width is less than 10.

Improper 'Insert Document'
A document which is being inserted into the main document may only contain an Insert Document command as its last line. You will have to redesign the scheme you are using to link documents together to avoid this problem.

Improper margin settings
The defined length of the text area would cause printing to go past the end of the page. This occurs if the Top Margin plus the Length is greater than the Page Length (normally 66).

Improper pathname
> The pathname that was supplied was syntactically invalid. Possibly one of the file names in the path is long than 15 characters, contains characters other than letters digits or dots, or starts with a dot. It is also possible that the total length of the path exceeds 60 characters.

Improper Text line
> One of the Text commands is attempting to put a header or footer (such as a page number) on a line which is also being used for printed text. Examine each Text command to verify that the header or footer is in either the top or bottom margin.

Improper variable
> A variable name is longer than 78 characters (38 for 40 column displays), does not end with an inverse "$>$", or contains illegal characters. Illegal characters include: space and any of the printout control characters (e.g. bold or end underline). Also, a variable name may not be split across a line.

Improper volume name
> The volume name you have given to FORMAT is invalid. Volume names may contain at most 15 characters and must be composed of only letters, digits and dots. The first character must be a letter.

Invalid external procedure
> Someone has attempted to produce an external procedure for Word Juggler and has blown it. Examples of external procedures are Lexicheck, Word Guess Plus, Print Form, Utilities and Terminus. This error can also be caused by attempting to use an incorrect version of an external procedure, or by attempting to use an external procedure for the Apple ///.

Invalid pitch
> The specified pitch is not allowed on the kind of printer you have. This error can only occur if you are using a USER filter. It indicates that the number of micro-spaces/inch is not divisible by the pitch number. The programmer supplying the filter can doubtless explain the reason.

Line 1024 not empty
   You are allowed at most 1024 lines in your document.
   If line 1024 contains text, it is not possible to add
   anything to the document.

Line not text
   The line following a Text, Let, Insert Document,
   Printer Control, If, or Comment command does not
   contain text. Or, the line the cursor was positioned
   on when a Transmit Line command was executed does not
   contain text. If you are unclear on the use of these
   commands, read the sections describing their operation
   in Chapter 4.

Missing '=' or improper '?'
   The character following the variable name in a Let
   command must be a "?" followed by a return, or an "=".

No data file name supplied
   The field count of your mail list file is preceded by
   "#". Print Form expects the name of the actual data
   file to be on the line immediately following the last
   field name.

No printer selected
   No printer has been selected. This probably occurred
   because the WJ.PARAMS file on your Word Juggler
   diskette contains incorrect information or is not
   present. Use the EDIT CONFIGURATION option in the main
   menu to specify the slot containing your printer. If
   this fails, recreate your parameters file using the
   Utilities program (SOLID APPLE "1").

No similar words found
   This error occurs when Word Guess Plus cannot find a
   word similar to the word indicated by the cursor.

No such volume
   You have attempted to access a volume which is not
   installed in the system.

Non-existent device
   You have improperly specified a device name. The only
   valid device names are ".Dd", ".Ss" or ".Ssd" where "s"
   is the slot number from 1 to 7 and "d" is either 1 or 2
   for drive 1 or 2. For example, ".D2", ".S5" and ".S42"
   all represent legal device names.

Non-integral record count
 The number of lines stored in the Word Juggler data
file used by Print Form is incorrect. Load the mail
list file and press OPEN APPLE "X" to get to the end of
the document. The column number should be one. Press
up arrow twice. The line number should be evenly
divisible by the field count (as given on line 1 of the
mail list).

Not DOS 3.3 disk
 The disk you have attempted to access is not formatted
as a normal DOS 3.3 disk. You have probably attempted
to access the Word Juggler or Lexicheck disk. You may
also be attempting to access a Pascal format disk.

Not Pascal disk
 The disk you have attempted to access is not formatted
as a normal Pascal disk. You have probably attempted
to access the Word Juggler or Lexicheck disk. You may
also be attempting to access a DOS 3.3 format disk.

Not PFS disk
 The disk you have attempted to access is not a PFS:File
data disk.

Not ProDOS disk
 The disk you have attempted to access is not formatted
like a normal ProDOS disk. It is probably a disk
formatted using either DOS 3.3 or Pascal.

Null page range specified
 The number of the first page to print in SPECIAL PRINT
must be less than or equal to the number of the last
page to print.

Out of memory
 There are no more lines available for text. If your
document requires more than about 785 lines of text
(for an Apple //c or 128K Apple //e), you will have to
break it into at least two pieces and link them
together using the Insert Document command. This error
can also occur while printing if there is not enough
free memory for the variables you wish to use.

Path not found
 The path you have specified does not exist.
Specifically, your pathname contains a subdirectory
which does not exist.

ProDOS error $dd
   The two characters following the "$" are a two digit
   hexadecimal number corresponding to a ProDOS error with
   which Word Juggler is unfamiliar. You should never get
   this error. If you do, check the manuals for the
   devices you have connected to your system to see if
   they list an error with the appropriate error code.

String not found
   The indicated sequence of characters was not found
   before the end of the document was reached.

SYSTEM FAILURE
   A catastrophic error has occurred in Word Juggler. Any
   changes which you have not recorded on diskette have
   been lost. The most common cause of this error is
   pressing CONTROL Reset.

Table overflow
   This error occurs when using Lexicheck if your document
   contains too many words which are not in the main
   dictionary. It is unlikely that you will ever get this
   error unless you are attempting to check documents
   written in some non-English language. In the event
   that this error occurs, you may wish to break your
   document into smaller sections and check each one
   separately.

Text area full
   You are allowed to have at most 10 Text commands for
   different lines in the top and bottom margin active at
   one time. Also, the sum of the lengths of the active
   Text commands may not exceed 245 characters.

Value out of range
   The numeric value given was out of the range of legal
   values. Check the section in Chapter 4 on the command
   you were attempting to determine the proper range for
   values.

Write protected disk
   The disk you are using is write protected (has a write
   protect tab installed). FORMAT, DELETE, STORE, Block
   Store, and Block Store & Delete will not work on such a
   disk. If you truly wish to change information on this
   disk, remove the write protect tab and repeat the
   operation. Note that this error can also occur when
   Word Juggler is attempting to update the configuration
   information on one of the Word Juggler diskettes.

Format of Word Juggler Documents

A normal Word Juggler document file is stored such that each line on the screen is a line in the text file followed by a carriage return. There may also be an initial line which contains the tab settings for the document. If a line contains an end of line marker, the marker is stored as a STX (control B) in the file. Enhancement control bytes are encoded as follows:

Enhancement	Stored as:
Underline	SO (control N)
No underline	SI (control O)
Bold	DLE (control P)
No bold	DC1 (control Q)
Superscript	DC2 (control R)
Subscript	DC3 (control S)
Start of variable	ETB (control W)
End of variable	EM (control Y)

The tab definition line which may precede the text consists of a DC4 (control T) followed by 80 ASCII zeros and ones. Ones correspond to positions where tabs are set. The line is followed by a carriage return (naturally). So the tab definition line will always take 82 bytes in the file if it is present. It is only put in the file by STORE if at least one tab is set. It is never put in the file by Block Store or Block Store & Delete.

Commands are stored as a line which begins with an Escape (and ends with a carriage return). The character following the Escape tells which command the line represents (see table below). Following this command character there may be either 0, 1, or 2 2-digit hexadecimal numbers which specify the parameter values. In the case of commands with two parameters (e.g., REPLACE and TEXT), the parameter which appears leftmost on the screen occurs first on the line.

COMMAND	COMMAND CHARACTER	# OF PARAMETERS
10 Pitch	4	0
12 Pitch	$	0
15 Pitch	4+128	0
Center	1	0
Comment	c	0
Double Space	&	0
Else	=+128	0
End If	+	0
If	=	0
Indent	6	1
Insert Document	%	0
Justify	2	0
Left Margin	(	1
Length	0	1
Let	3	0
Need	_	1
New Page	^	0
Page Length	8	1
Pause	*	0
Printer Control	p	0
Ragged Left	2+128	0
Ragged Right	@	0
Replace	5	2
Single Space	7	0
Skip	-	1
Text at Line	#	2
Top Margin	9	1
Triple Space	7+128	0
Width	)	1

In table above, the "+128" on some of the command characters indicates that the character stored in the file has an ASCII code which has the high bit set (e.g. the code for Triple Space is generated by CHR$(ASC("7")+128) in BASIC.

Thus command lines will always take either 3, 5 or 7 bytes in the file (including the carriage return) depending on the number of parameters they have. The encoding scheme for command characters corresponds to the characters that are actually used to enter the commands from a keyboard with the standard U.S. layout. A few exceptions to this rule have been made in order to maintain compatibility with old versions of Word Juggler.

This is the format of the file created by Word Juggler. Should you wish to create a Word Juggler document yourself, you have a little more freedom. Word Juggler strips out any

control characters it doesn't understand. The high bit of the character code is ignored except for command characters. Carriage returns are only required after the tab definition line, after an end of line marker (control B), and after commands. Remember that the line preceding a command should end with a carriage return. Commands which contain improper command characters or where parameter values are out of range are ignored.

Format of * Files

When you prefix a path name with an asterisk in STORE, Block Store and Block Store & Delete, Word Juggler automatically strips out the commands and the printout enhancement bytes as it stores the file. The inverse "<" and ">" used for variable markers are converted into normal "<" and ">". It also removes the text line following the If, Let, Text, Comment, Insert Document and Printer Control commands. Tab settings are never stored. No carriage returns are put in the file except when an end of line marker is encountered. A carriage return will also be added if a text line preceding a command does not end with an end of line marker. Thus, files stored using "#" contain only the printing text.

When you wish to load a report that was produced by some other program, you must use the "#" in front of the report path name. Since carriage returns are converted to end of line markers, an end of line marker will be put at the end of every line of the report.

When you load a file using "#", it is possible for it to contain tab settings, commands, printout enhancements, and variable markers (if you create it yourself). They have the same form as in a normal Word Juggler document file.

Format of Data Files for Print Form

The files used by option 1 of Print Form are simple text files. Print Form reads in the first line from the file and expects to see a number from 1 to 99. This is used as the field count. It expects the next N lines (where N is the field count) to be the field names. Each set of N lines thereafter is taken as a set of field values. Lines in the file which start with a control T or an Escape are ignored.

Field names may be up to 78 characters long (38 if Word Juggler is operating in 40 column display mode) and may not contain any spaces. Lowercase characters are converted to uppercase. Field values may not exceed 80 characters (40 characters if Word Juggler is operating in 40 column display mode). Any control characters (except CR) or characters whose ASCII value exceeds 126 are ignored. This means that variable markers and printout enhancement codes are stripped out of field values.

It is possible to have a file of this type chain to another file. If the field count is preceded by "*", the line immediately following the field names will be used as the name of the file from which field values should be obtained.

User Printer Filters

You can install assembly language printer filters to support printers which can't use one of the built-in filters. Several of these filters are provided on the Word Juggler diskette. One is provided for the Imagewriter and Apple DMP (this filter will also work with a variety of other printers such as the NEC 8023 and C.Itoh 8510). Another is supplied for the Apple Scribe. Two filters are provided for the Epson. One is for Epsons without Graftrax plus and the other is for Epsons with Graftrax plus (the Epson FX series is of the latter type). Other filters are provided for the Anadex 9500 printer and the Okidata 84, 92 and 93.

All these filters support the Word Juggler bold and underlining features. All printers support the various pitch commands though some printers do not actually produce exactly 10, 12 or 15 characters per inch. The Epson without Graftrax plus and the Anadex 9500 cannot perform super and subscripting.

Writing a Printer Filter

You may wish to write your own filter if your printer has special features for underlining, bold printing, etc. which are not supported by any Word Juggler filters. You write this filter using the ProDOS assembler.

256 bytes are allocated for your filter. A filter is an absolute assembly language file. To be recognized as such,

it must stored on the Word Juggler master disk (or the Word Juggler subdirectory on your hard disk) with the name "WJ.USER". The Filter parameter in EDIT CONFIGURATION must be set to User. Note that you can't set the filter parameter to User unless a user filter is present!

User filters are installed by the Word Juggler Utilities program (SOLID APPLE "1"). Within the Install User Filter option, menu entries appear for each of the supplied filters. An additional option allows you to install other filters. These may be filters from Quark, or your own filters made by using either a ProDOS assembler or the Pascal TLA assembler.

Filter Structure

Your filter must be an absolute code file ORGed to $200. It may contain at most 256 bytes, and may not reference external procedures. Word Juggler does not check that these conditions are satisfied, so be careful. Your filter must not have any infinite loops. If it does, the only way to abort printout is by pressing Control Reset (not a very safe operation).

Your filter should be preceeded by a 512 byte header. The first six bytes of this header contains "WJ PF" (with the high bit clear) and then a $81. The next 16 bytes contain the filter name. Names shorter than 16 bytes should be padded with spaces. Characters in the name should have the high bit clear. The remaining 490 bytes should all be zeros (this area is reserved for future expansion). Note that if you have used the Pascal TLA assembler to create your filter, you will need to strip off the 512 byte header added by TLA before the filter can be used by Word Juggler.

You must provide four routines in your filter. The first 12 bytes should be jumps to these routines. The four routines are:

1. Reset filter
2. Set horizontal motion index
3. Perform super/subscripting
4. Output character

The Reset filter routine is called just before every copy of a document is printed and also just before every line is transmitted or typed in typing mode. This routine should insure that the printer is in normal printing mode, should

initialize any temps it will require later and should return in the A register a filter type telling Word Juggler the capabilities of the printer. The filter types are as follows:

FILTER TYPE	MEANING
0	Printer has backspace and the capability to print small fractions of a space.
1	Printer has only backspace.
2	Printer can't backspace and doesn't force a line feed after a carriage return.
3	Printer can't backspace and forces a line feed after a carriage return.

Printers of type 0 are called micro-spacing printers. For micro-spacing printers, you may also wish to define the number of micro-spaces/inch (MSPI) and possibly the number of micro-spaces/character (MSPC). For printers where the micro-spacing capability is defined in terms of a fixed number of increments per inch (e.g. the Apple LQP or Qume), just set MSPI. For a printer where either the width of a character or the inter-character gap is divided into a number of increments based solely on character width, set MSPI to zero and MSPC to the number of increments in a character. Just do an RTS when you are through. You may use any registers you like, but be sure that the interrupt and decimal flags are unmodified.

The Set Horizontal Motion Index (Set HMI) routine is only used by micro-spacing printers. If your filter is not for a micro-spacing printer (type 0), routine 2 will never be called (fill in its three byte area with RTS, NOP, NOP).

On entry to the Set HMI routine, the X register contains the width in micro-spaces of subsequent characters. You should set the printers horizontal motion index (or inter-character gap) accordingly. Just do an RTS when you are through. You may use any register you like, but be sure that the interrupt and decimal flags are unmodified.

The perform super/subscripting routine activate the super/subscripting features of your printer. If these features aren't built into the printer, you must do either a linefeed, reverse linefeed, half linefeed, or reverse half linefeed. The X register specifies which to perform:

Value of X	Operation
0	Reverse line feed (Special, see below)
1	Reverse half linefeed (start super)
2	Half linefeed (start sub)
4	Half linefeed (end super)
6	Linefeed (end super then start sub)
8	Reverse half linefeed (end sub)
9	Reverse linefeed (end sub then start super)

Just do an RTS when you are through. You may use any register you like, but be sure that the interrupt and decimal flags are unmodified. In the special case that X is zero, you should return with carry clear if you did the reverse linefeed and carry set if you did not (this value is only sent when a reverse linefeed is requested in the Typewriter command).

If your printer can't do super/subscripting, just set the three byte area for this routine to SEC, RTS, NOP.

The Output character routine receives the character to print in the A register. Unlike the other routines, the value of the X register must be the same when your routine finishes as when it was called. X contains information on the kind of enhancements that should be applied to the character (this byte is called the enhancements byte). In many cases, the value in X is probably uninteresting since Word Juggler performs the underlining and bold printing. The bits of X are defined as follows:

7	6	5	4	3	2	1	0
-	-	-	-	-	-	Bold	Underlined

Bits 7 through 2 are used internally by Word Juggler. Do not assume that they have any particular value. Bit 0 is set if the character should be underlined and bit 1 is set if the character should be printed as bold.

CR and LF will have X set to 0. The only character codes that will be passed into this routine by Word Juggler are: backspace (filter types 0 or 1 only), CR, LF and the ASCII codes from 32 to 126. Characters generated by the Printer Control command bypass the filter and are sent directly to the printer. Backspace, CR and LF all have the high bit set, their values are 136, 141 and 138 respectively.

If your filter is for a printer of type 2 ("Other (w/o bsp & no auto LF)"), Word Juggler will automatically do overprinting to generate underlining and bold printing. If

you are doing the underlining yourself, you should set the value of the "ULPTR" temp to zero when you receive a carriage return. If you are doing the bold printing yourself, you should set the value of "BOLDPTR" to zero when a carriage return is received. If you are handling both underlining and bold printing yourself, you should be using a type 3 filter.

SPECIAL NOTE: If you have a printer which can print small fractions of spaces but which can't do a backspace, you may still want to write a filter of type 0. All you have to do is set a flag when you are passed a backspace code. Then, when the next character is received, you just don't print it. Note that you will also need to clear this flag when the filter reset routine is called. You will have to handle bold printing and underlining by yourself. WARNING: This technique doesn't properly stop the use of the backspace character in the Typewriter command.

Temporary Storage

The following basepage temps are allocated for use by your filter:

NAME	LOCATION	USE
PITCH	$F0	This location contains the current pitch setting (10, 12 or 15). Do not modify this location.
MSPI	$F1	Number of micro-spaces/inch for a micro-spacing printer. Micro-spaces/character (MSPC) is derived by dividing this by PITCH. If the value for your printer is not 120, you should set it in the filter reset routine. The number should be divisible by the default pitch setting, and should probably also be divisible by 10, 12 and 15. Bold face will be accomplished by printing a character, setting the horizontal motion index to one less than the width of that character and then backspacing and reprinting the character. Never modify this location except in your filter reset routine.

NAME	LOCATION	USE
HMI	$F2	The horizontal motion index for the character currently being printed. Do not modify this location. There is probably no reason for you to ever use it
MSPC	$F3	Number of micro-spaces per character for type 0 filters. If MSPI is non-zero, this is calculated as MSPI divided by the pitch setting. If you set MSPI to zero in your filter reset routine, you should set MSPC to the appropriate value. Never modify this location except in your filter reset routine.
ULPTR	$F4	Points to the last underlined character in the underlined character list (type 2 and 3 filters only). Set this location to zero when a carriage return is received if you don't wish your type 2 filter to underline by overstriking.
BOLDPTR	$F5	Points to the last bold character in the bold character list (type 2 and 3 filters only). Set this location to zero when a carriage return is received if you don't wish your type 2 filter to do bold printing by overstriking.
PRSTRIKE	$F6	This contains a copy of the value of the Strike count parameter. You may use it or ignore it as you see fit. If you don't use it, you may use this location as an additional temp.
	$F7-$FF	General usage temps. Their value will not be set or modified by Word Juggler during the printing of a document. However, their values are undefined when the reset routine is first entered.

As mentioned earlier, you may use memory from $200 to $2FF. If you have temps that must survive from one printing to the next or you need more temps, they should be stored somewhere in the area from $230 to $2FF.

Word Juggler Routines

Only one routine is provided for use by your filter, PCOUT. Do not use any other routines which you may accidentally (or purposely) discover. Most routines in ROM are not compatible with Word Juggler. The location of any Word Juggler routines may vary from version to version. You will have difficulty doing any ProDOS calls because Word Juggler maintains fairly tight control of memory and file usage.

The PCOUT routine is located at $851. It outputs the byte in the A register to the printer. The X and Y registers return unscathed. The A register returns garbled. There is no guarantee as to the contents of the status register (except that the interrupt and decimal flags are unmodified).

Control I is converted into a special sequence for some peripheral cards so that it can actually be transmitted to the printer. If you need to send a control I to the peripheral card, you can probably send a code $99 to do this or you can enable ROM, do a JSR to the monitor COUT routine and then enable bank two of the language card for read/write.

Sample Filters

Listings of the filters for the Imagewriter and the Epson with Graftrax Plus follow. These listings were produced using the ProDOS assembler.

```
LOC    CODE      LINE#

0000             10000 *
0000             10010 * IMAGEWRITER/APPLE DMP/NEC 8023/CITOH 8510 FILTER
0000             10020 *
0000             10030 * STRIKE COUNT PARAMETER IS USED TO DETERMINE PRINTER TYPE
0000             10040 *   2="q" gives 15 pitch, tab over for super/subscripting
0000             10050 *   3="q" gives 15 pitch, tab not needed
0000             10060 *   4="Q" gives 17 pitch, tab needed
0000             10070 *   5="Q" gives 17 pitch, tab not needed
0000             10080 *

0000             10100 *
0000             10110 * CONSTANTS
0000             10120 *
001B             10130 ESC      EQU 27

0000             10150 *
0000             10160 * WORD JUGGLER ROUTINES AND TEMPS
0000             10170 *
0851             10180 PCOUT    EQU $851        Character print routine

00F0             10200 PITCH    EQU $F0         Current pitch setting
00F6             10210 PRSTRIKE EQU $F6         Strike count (printer subtype)
00F7             10220 OLDENH   EQU $F7         Previous enhancement state
00F8             10230 OLDPITCH EQU $F8         Previous pitch setting
00F9             10240 HPOS     EQU $F9         Printer horizontal position

0000             10260 *
0000             10270 * FILTER HEADER
0000             10280 *
0000             10290          ORG 0
0000   57 4A 20  10300          ASC "WJ PF"
0005   81        10310          DAT $81
0006   49 6D 61  10320          ASC "Imagewriter    "
0016             10330          BSS 490

0200             10350 *
0200             10360 * ENTRY POINTS
0200             10370 *
0200   4C 0C 02  10380          JMP RESET       Filter reset
0203   60        10390          RTS             Set HMI entry (not used)
0204   EA        10400          NOP
0205   EA        10410          NOP
0206   4C 3E 02  10420          JMP DOSS        Do super/subscript
0209   4C 96 02  10430          JMP COUT        Print a character

020C             10450 *
020C             10460 * FILTER RESET
020C             10470 *
020C   A0 05     10480 RESET    LDY #5
020E   A9 1B     10490 RESET1   LDA #ESC
0210   20 51 08  10500          JSR PCOUT
0213   B9 38 02  10510          LDA RTABLE,Y
0216   20 51 08  10520          JSR PCOUT
0219   88        10530          DEY           .
021A   10 F2     10540          BPL RESET1
021C   C8        10550          INY
021D   84 F8     10560          STY OLDPITCH    Assume pitch undefined
```

```
LOC    CODE     LINE#

021F  84 F7     10570            STY OLDENH        Assume not bold or underlined
0221  84 F9     10580            STY HPOS          At left column of printer
0223  A9 71     10590            LDA #"q"          Use "Q" or "q" depending on subtype.
0225  A6 F6     10600            LDX PRSTRIKE
0227  E0 04     10610            CPX #4
0229  90 02     10620            BCC RESET2
022B  A9 51     10630            LDA #"Q"
022D  8D EC 02  10640  RESET2    STA PCODE+2
0230  A9 0F     10650            LDA #15           Normal width characters
0232  20 51 08  10660            JSR PCOUT
0235  A9 03     10670            LDA #3            Simple printer (we control bold, etc.)
0237  60        10680            RTS

0238  59 41 66  10700  RTABLE    DAT "Y","A","f","$","!"+1,"N"

023E            10720  *
023E            10730  * DO SUPER/SUBSCRIPT
023E            10740  *
023E  BD 8C 02  10750  DOSS      LDA SSINDEX,X
0241  AA        10760            TAX
0242  BD 70 02  10770  DOSS1     LDA SSTABLE,X
0245  F0 06     10780            BEQ DOSS2         If whole sequence sent; skip
0247  20 51 08  10790            JSR PCOUT
024A  E8        10800            INX
024B  D0 F5     10810            BNE DOSS1         *
024D  A6 F9     10820  DOSS2     LDX HPOS          TAB back to the right column
024F  F0 1D     10830            BEQ DOSS4
0251  A5 F6     10840            LDA PRSTRIKE
0253  4A        10850            LSR A
0254  B0 18     10860            BCS DOSS4         If not doing tab back; skip
0256  A5 F7     10870            LDA OLDENH        Underlining off
0258  29 02     10880            AND #2
025A  85 F7     10890            STA OLDENH
025C  A9 1B     10900            LDA #ESC
025E  20 51 08  10910            JSR PCOUT
0261  A9 59     10920            LDA #"Y"
0263  20 51 08  10930            JSR PCOUT
0266  A9 20     10940  DOSS3     LDA #" "
0268  20 51 08  10950            JSR PCOUT
026B  CA        10960            DEX
026C  D0 F8     10970            BNE DOSS3
026E  18        10980  DOSS4     CLC
026F  60        10990            RTS

0270            11010  SSTABLE   EQU *
0000            11020  REVLF     EQU *-SSTABLE
0270  1B 72 0A  11030            DAT ESC,"r","J"-64,ESC,"f",0
0006            11040  LF        EQU *-SSTABLE
0276  0A 00     11050            DAT "J"-64,0
0008            11060  REVHLF    EQU *-SSTABLE
0278  1B 54 31  11070            DAT ESC,"T","1","2",ESC,"r","J"-64
027F  1B 66 1B  11080            DAT ESC,"f",ESC,"A",0   (cont.)
0014            11090  HLF       EQU *-SSTABLE
0284  1B 54 31  11100            DAT ESC,"T","1","2","J"-64,ESC,"A",0

028C  00 08 14  11120  SSINDEX   DAT REVLF,REVHLF,HLF,0,HLF,0,LF,0,REVHLF,REVLF
```

```
LOC    CODE      LINE#

0296             11140 *
0296             11150 * PRINT A CHARACTER
0296             11160 *
0296   48        11170 COUT    PHA              Save character
0297   A5 F0     11180         LDA PITCH
0299   C5 F8     11190         CMP OLDPITCH
029B   F0 0F     11200         BEQ COUT1        If no pitch change; skip
029D   85 F8     11210         STA OLDPITCH     Update pitch setting
029F   4A        11220         LSR A            (Use sneaky trick #12B)
02A0   A8        11230         TAY
02A1   A9 1B     11240         LDA #ESC
02A3   20 51 08  11250         JSR PCOUT
02A6   B9 E5 02  11260         LDA PCODE-5,Y
02A9   20 51 08  11270         JSR PCOUT
02AC   8A        11280 COUT1   TXA
02AD   29 03     11290         AND #3
02AF   C5 F7     11300         CMP OLDENH
02B1   F0 25     11310         BEQ COUT4        If no enhancement change; skip
02B3   85 F7     11320         STA OLDENH       Update enhancement info
02B5   A9 1B     11330         LDA #ESC         Revise underline state
02B7   20 51 08  11340         JSR PCOUT
02BA   A5 F7     11350         LDA OLDENH
02BC   4A        11360         LSR A
02BD   A9 58     11370         LDA #"X"
02BF   B0 02     11380         BCS COUT2
02C1   A9 59     11390         LDA #"Y"
02C3   20 51 08  11400 COUT2   JSR PCOUT
02C6   A9 1B     11410         LDA #ESC         Revise bold state
02C8   20 51 08  11420         JSR PCOUT
02CB   A5 F7     11430         LDA OLDENH
02CD   C9 02     11440         CMP #2
02CF   A9 21     11450         LDA #"!"
02D1   B0 02     11460         BCS COUT3
02D3   A9 22     11470         LDA #"!"+1
02D5   20 51 08  11480 COUT3   JSR PCOUT
02D8   68        11490 COUT4   PLA              Recover and print character
02D9   E6 F9     11500         INC HPOS         (Adjust printer column position)
02DB   D0 02     11510         BNE COUT5
02DD   C6 F9     11520         DEC HPOS
02DF   09 00     11530 COUT5   ORA #0
02E1   10 04     11540         BPL COUT6        If not CR or LF; skip
02E3   A0 00     11550         LDY #0
02E5   84 F9     11560         STY HPOS
02E7   4C 51 08  11570 COUT6   JMP PCOUT

02EA   4E 45 71  11590 PCODE   ASC "NEq"        Pitch setting codes

02ED             11610         ASSERT *<=$300

02ED             11630         END
```

NO ERRORS DETECTED, NEXT FREE BYTE AT $02ED

```
LOC    CODE       LINE#

0000              10000 *
0000              10010 * SPECIAL MX80 FILTER FOR MX80S WITH GRAFTRAXPLUS
0000              10020 * (ALSO FOR FX80S)
0000              10030 *
0000              10040 * 10 PITCH FORCES EXPANDED PRINT
0000              10050 * 15 PITCH FORCES COMPRESSED PRINT
0000              10060 *

0000              10080 *
0000              10090 * WORD JUGGLER ROUTINES AND TEMPS
0000              10100 *
0851              10110 PCOUT    EQU $851          Character print routine

00F0              10130 PITCH    EQU $F0           Current pitch setting
00F6              10140 PRSTRIKE EQU $F6           Printer strike count
00F8              10150 OLDPITCH EQU $F8           Previous pitch setting
00F9              10160 OLDENH   EQU $F9           Old enhancements settings

0000              10180 *
0000              10190 * FILTER HEADER
0000              10200 *
0000              10210          ORG 0
0000 57 4A 20     10220          ASC "WJ PF"
0005 81           10230          DAT $81
0006 45 70 73     10240          ASC "Epson FX        "
0016              10250          BSS 490

0200              10270 *
0200              10280 * ENTRY POINTS
0200              10290 *
0200 4C 20 02     10300          JMP RESET         Filter reset
0203 60           10310          RTS               Set HMI entry (not used)
0204 EA           10320          NOP
0205 EA           10330          NOP
0206 4C 33 02     10340          JMP SS            Do super/subscript
0209 4C 72 02     10350          JMP COUT          Print a character

020C              10370 *
020C              10380 * INITIALIZATION SEQUENCE
020C              10390 *
020C 00 55 1B     10400 ISEQ     DAT 0,"U",27,0,"-",27,"5",27,0,"W",27,"F",27
0219 48 1B 4F     10410          DAT "H",27,"O",27,"T",27,146
0014              10420 ISLEN    EQU *-ISEQ

0220              10440 *
0220              10450 * FILTER RESET
0220              10460 *
0220 A0 13        10470 RESET    LDY #ISLEN-1
0222 B9 0C 02     10480 RESET1   LDA ISEQ,Y
0225 20 51 08     10490          JSR PCOUT
0228 88           10500          DEY
0229 10 F7        10510          BPL RESET1
022B C8           10520          INY
022C 84 F8        10530          STY OLDPITCH      Assume pitch undefined
022E 84 F9        10540          STY OLDENH        No enhancements on
0230 A9 03        10550          LDA #3            OTHER (W/O BSP & AUTO LF)
0232 60           10560          RTS
```

LOC   CODE   LINE#

```
0233                10580 *
0233                10590 * DO SUPER/SUBSCRIPT
0233                10600 *
0233   8A           10610 SS       TXA
0234   F0 3A        10620          BEQ SS2          If reverse LF request; skip
0236   A9 1B        10630          LDA #27
0238   20 51 08     10640          JSR PCOUT
023B   8A           10650          TXA
023C   29 03        10660          AND #3
023E   D0 24        10670          BNE SS1          If super/sub start; skip
0240   A9 48        10680          LDA #"H"
0242   20 51 08     10690          JSR PCOUT
0245   A9 1B        10700          LDA #27
0247   20 51 08     10710          JSR PCOUT
024A   A9 54        10720          LDA #"T"
024C   20 51 08     10730          JSR PCOUT
024F   A5 F9        10740          LDA OLDENH       Mark bold off
0251   29 01        10750          AND #1
0253   85 F9        10760          STA OLDENH
0255   A9 1B        10770          LDA #27          Set back to bidirectional
0257   20 51 08     10780          JSR PCOUT
025A   A9 55        10790          LDA #"U"
025C   20 51 08     10800          JSR PCOUT
025F   A9 00        10810          LDA #0
0261   4C 51 08     10820          JMP PCOUT
0264   A9 53        10830 SS1      LDA #"S"
0266   20 51 08     10840          JSR PCOUT
0269   8A           10850          TXA
026A   29 02        10860          AND #2
026C   4A           10870          LSR A
026D   4C 51 08     10880          JMP PCOUT
0270   38           10890 SS2      SEC
0271   60           10900          RTS

0272                10920 *
0272                10930 * PRINT A CHARACTER
0272                10940 *
0272   09 00        10950 COUT     ORA #0
0274   30 4B        10960          BMI COUT5        If control character (CR or LF); skip
0276   48           10970          PHA
0277   8A           10980          TXA
0278   29 03        10990          AND #3
027A   C5 F9        11000          CMP OLDENH
027C   F0 2C        11010          BEQ COUT3        If no enhancements change; skip
027E   85 F9        11020          STA OLDENH
0280   A9 1B        11030          LDA #27          Adjust underline mode
0282   20 51 08     11040          JSR PCOUT
0285   A9 2D        11050          LDA #"-"
0287   20 51 08     11060          JSR PCOUT
028A   8A           11070          TXA
028B   29 01        11080          AND #1
028D   20 51 08     11090          JSR PCOUT
0290   A9 1B        11100          LDA #27          Adjust emphasized mode
0292   20 51 08     11110          JSR PCOUT
0295   A5 F9        11120          LDA OLDENH
0297   C9 02        11130          CMP #2
0299   A9 45        11140          LDA #"E"
```

LOC   CODE   LINE#

```
029B  B0 02      11150              BCS COUT1
029D  A9 46      11160              LDA #"F"
029F  A4 F6      11170 COUT1        LDY PRSTRIKE
02A1  C0 02      11180              CPY #2
02A3  F0 02      11190              BEQ COUT2          If normal bold; skip
02A5  E9 11      11200              SBC #"E"-"4"       Else adjust for Italics
02A7  20 51 08   11210 COUT2        JSR PCOUT
02AA  68         11220 COUT3        PLA
02AB  A4 F0      11230              LDY PITCH
02AD  C4 F8      11240              CPY OLDPITCH
02AF  F0 0D      11250              BEQ COUT4          If no pitch change; skip
02B1  84 F8      11260              STY OLDPITCH       Update pitch setting
02B3  48         11270              PHA
02B4  98         11280              TYA
02B5  4A         11290              LSR A
02B6  A8         11300              TAY
02B7  B9 C7 02   11310              LDA PITBL-5,Y
02BA  20 51 08   11320              JSR PCOUT
02BD  68         11330              PLA                Recover character
02BE  4C 51 08   11340 COUT4        JMP PCOUT
02C1  C9 8D      11350 COUT5        CMP #"M"+64
02C3  D0 04      11360              BNE COUT6          If not CR; skip
02C5  A0 00      11370              LDY #0             Remove old pitch setting
02C7  84 F8      11380              STY OLDPITCH
02C9  4C 51 08   11390 COUT6        JMP PCOUT          Recover and print the character

02CC             11410 *
02CC             11420 * PITCH TABLE
02CC             11430 *
02CC  0E 12 0F   11440 PITBL        DAT 14,18,15

02CF             11460              ASSERT *<=$300

02CF             11480              END
```

NO ERRORS DETECTED, NEXT FREE BYTE AT $02CF

This glossary contains the definitions of some common terms which may not be familiar to you. It also presents additional interesting information whenever it seems appropriate.

Block

The word "block" has two meanings in this manual. The most common usage is when referring to an arbitrary section of text. Word Juggler provides certain commands for moving blocks of text around (see **Copy**, **Block Load**, etc). A block is also a unit of storage on a disk containing 512 characters (or bytes) of information. When you do a CATALOG of a root directory you are told how much free space is on a disk in blocks. When you get ready to do a STORE, you are told how many blocks of storage are required to save your document.

Boot

The term "boot" (or "boot up") is a computer science buzz-word. It generally refers to the process of starting up from scratch and allegedly originated with the idea of pulling oneself up by one's boot straps. The boot process is initiated whenever you turn the computer on or when you hold down the CONTROL and OPEN APPLE keys and press RESET.

Directory

A directory is a repository for file names. In the simplest case, you refer to a directory every time you get a CATALOG of ".D1".

Document

A document is just a Word Juggler text file. It has no other special meaning. Word Juggler document files can even be accessed from BASIC programs running under ProDOS. See Appendix B for details.

File

A file is a named container of information (generally stored on a disk). It is vaguely analogous to a file folder (the file) stored in a file cabinet (a disk). A wide variety of types of information may be stored in a file. Some of the files you see when you do a CATALOG

are Word Juggler documents, some are computer programs
and others contain data of a nature so esoteric that it
is only meaningful to computer science Gurus. A file
may even be a directory (which contains files (which
may contain a directory (which contains files...))).

File name

A 1 to 15 character name by which one can refer to a
file.   The name must be composed of only letters,
digits and dots. The first character must be a letter.
Lowercase letters are converted to uppercase.

Hexadecimal

Hexadecimal is a word used to describe a number
represented in base 16.   Hexadecimal numbers have 6
digits in addition to the normal 0 through 9.   They
are A through F (A having a value of 10, B of 11, ... F
having a value of 15).   To convert a number from
hexadecimal to decimal, first convert each digit into
its decimal value from 0 to 15.   Then multiply the
value of the first (left hand) digit by 16 and add in
the value of the second digit.

Word Juggler uses hexadecimal to represent non-printing
characters in the **Printer Control** command.

Lowercase

The non-capital letters: abcdef...z.

Microspace

Many· letter quality printers have the capability to
move in increments of 1/120th inch. Word Juggler uses
this microspacing capability to perform smooth text
justification.

When a line doesn't go completely from the left margin
to the right margin, Word Juggler fills out the extra
space on non-microspacing printers by putting extra
spaces between some of the words on the line. This can
make the line look a little odd. The human eye catches
the big holes created in this way.

On microspacing printers, Word Juggler simply spreads
out the spacing between some of the characters by
1/120th of an inch or so. The effect is almost
unnoticeable since there are no large white areas.

OPEN APPLE

The OPEN APPLE key is the key just to the left of space bar. Its function is defined by the programmer. In Word Juggler, the OPEN APPLE key is used to activate editing commands such as **Delete Word, Display,** etc.

Pathname

A pathname is a name which uniquely specifies a file. The file name by itself may not be sufficient since there may be two files with the same name on different disks. Thus, you must specify which volume the file resides on (e.g. ".D1", "/WORD.JUGGLER", etc.). If the file is in a subdirectory, you must also give the subdirectory name. Thus to access the file "GEORGE" on the volume "DEMO" in subdirectory "X", you use "/DEMO/X/GEORGE". If "/DEMO" is in drive 1, you could also refer to the file as ".D1/X/GEORGE". Since you can have a subdirectory within a subdirectory, this can get even more complicated.

It is not always necessary to give the volume name (or drive name). If your pathname doesn't begin with either a "." or a "/" , the "prefix" is added in front of your pathname. Thus, if you type "SEYMOUR" and the prefix has been set to ".D1", the file accessed is actually ".D1/SEYMOUR".

Word Juggler supports an enhancement to standard ProDOS pathnames. Under ProDOS, if you want to specify a particular disk, your pathname begins with the name of that disk. If you don't know that name of the disk, you're sunk.

With Word Juggler you can also refer to the disk based on which drive it is in. To access the file "GEORGE" on the boot device, you use ".D1/GEORGE". If the disk containing "GEORGE" is on the second disk drive, you use ".D2/GEORGE". If "GEORGE" is on a hard disk drive plugged into slot 5, you use ".S5/GEORGE". You can even reference a second drive in slot 5 as ".S52".

Prefix

The prefix allows you to select a default directory which will be accessed if you type only a file name (or a partial pathname). If your pathname doesn't begin with either a "." or a "/", the prefix is added in front of your pathname. Thus, if you type "SEYMOUR" and the prefix has been set to ".D1", the file accessed is actually ".D1/SEYMOUR".

You may have your prefix set to point to a subdirectory. If you are using the subdirectory "LETTERS" on the diskette installed on the boot device, your prefix may be set to ".D1/LETTERS". If you then enter "SEYMOUR" as a file name, the file ".D1/LETTERS/SEYMOUR" will be accessed.

Root directory

This is the main directory associated with a particular volume. It may contain up to 51 files. The root directory may contain files which are themselves directories (called subdirectories).

SOLID APPLE

The SOLID APPLE key is the key just to the right of the space bar. This key behaves much like a SHIFT or CONTROL key. It can be used to modify the meaning of a character. In the case of Word Juggler, it is used to enter the printout enhancement characters (e.g. Bold, Underline, etc.) and the variable markers (inverse "<" and ">"). It is also used to load external assembly language programs for special functions. **Print Form**, **Utilities** and Lexicheck are examples of such programs.

Subdirectory

Any directory that is not the root directory (e.g. a directory contained in the root directory, or a directory contained in a directory contained in the root directory, or ...).

Uppercase

The capital letters: ABCDEFG...Z.

Volume

This is another name for a disk (more or less).

Volume name

The name by which you refer to a volume (or a disk). When you format a diskette, you give a name to the disk called the volume name. You can subsequently refer to the diskette either by referring to the device in which it is mounted (e.g. ".D1", ".D2", etc.) or by using the name of the volume preceded by a "/" (e.g. "/WORD.JUGGLER"). Volume names consist of from 1 to 15 characters. The name must be composed of only letters, digits and dots. The first character must be a letter. Lowercase letters are converted to uppercase.

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